

THE BOSTON Medical and Surgical JOURNAL

VOLUME 197

NOVEMBER 3, 1927

NUMBER 18

The Massachusetts Medical Society

ANNUAL MEETING

SECTION OF OBSTETRICS AND GYNECOLOGY

TUESDAY AFTERNOON, JUNE 7, 1927

THE Section of Obstetrics and Gynecology of the Massachusetts Medical Society convened at two-thirty o'clock, Dr. Richard S. Benner of Springfield presiding.

CHAIRMAN BENNER: At our last meeting Dr. Mongan was appointed Chairman of the Nominating Committee. He will give us his report.

DR. C. E. MONGAN (Somerville): Mr. Chairman and Members of the Section: The Committee wishes to submit the following nominations for officers for next year:

Chairman, Dr. F. S. Kellogg, Boston.

Secretary, Dr. Fred L. Good, Boston.

CHAIRMAN BENNER: You have heard the report. What is your pleasure?

It was moved, seconded and carried that the nominations be accepted and the Secretary be instructed to cast the ballot for the men named.

CHAIRMAN BENNER: For some years this State Medical Society has had its Medical and Surgical Section but it is only within the last three years, I think, that there has been a Section of Obstetrics and Gynecology. This Section has been called a minor section but it has been growing in importance and interest, so that I think today with the speakers whom we have on our program and the ball room, we have blossomed out into a major section.

We were fortunate in being able to get Dr. Newell, Professor of Obstetrics of the Harvard Medical School, to be our first speaker. Dr. Newell will speak on Cardiac Disease In Its Relation to Pregnancy and Labor. (Applause.)

TREATMENT OF CARDIAC COMPLICATIONS OF PREGNANCY AND LABOR

BY FRANKLIN S. NEWELL, M.D., F.A.C.S.

ONE of the most important developments in modern Obstetrics has been in the better understanding of Heart Disease in its relation to pregnancy and labor. Although it has long been recognized that the complication of heart disease by pregnancy is always potentially serious, only the obstetrician has been in a position to appreciate its true importance until comparatively recently.

The average internist sees too few cases, and those only in consultation, to have an adequate conception of the problems which may arise, and the average obstetric specialist has had too little training in the study of cardiac disease, and is too deeply conscious of the possible dangers, to be the best adviser. No internist who has not followed many cases throughout the parturient state, studying the effect of the steady increase of strain on the heart, which is unavoidable as pregnancy progresses, the results of delivery by the various methods, and the end results months afterward, can have a really intelligent conception of the problems which may arise and have to be solved in individual cases. On the other hand, no obstetric surgeon, who has not had an opportunity of following the work of what may be termed an obstetric cardiologist can have any adequate idea of what can be accomplished in the prevention of serious disasters, by the proper classification of the cardiac cases combined with adequate supervision of the patients throughout pregnancy. The cardiologist and the obstetrician working together can determine better than either alone, the proper treatment of the individual case. This includes the care of pregnancy, the selection of proper time for the termination of pregnancy, if that becomes necessary, the choice of the method of delivery, and the advisability of the prevention of future pregnancies by sterilization in appropriate cases.

Having had for several years the opportunity to observe the results obtained in one of the first, if not the first, of the Obstetric Cardiac Clinics in this country, I believe that a new specialty has been developed which will be productive of results of the greatest importance to the community, in the immediate preservation of maternal and fetal life and in the restoration to at least comparatively good health and usefulness in the community of many women who if not properly cared for, will either die or be left as cardiac invalids.

Since Dr. Hamilton is going to open the discussion on this paper and will give in some detail his conclusions as to what can be accomplished in a cardiac clinic, I shall limit myself

to a consideration of what I consider the proper care of a cardiac case and leave to him the discussion of the methods by which he arrives at his conclusions.

To judge from the textbooks, there has been in the past, and still is, a marked difference of opinion in regard to the seriousness of cardiac disease complicating pregnancy, some observers believing that cardiac lesions, especially mitral stenosis, are of sufficient importance to contraindicate pregnancy absolutely or to serve as an indication for immediate abortion, while others, although recognizing that some cardiac cases are bad risks, apparently feel that the majority of cardiacs require no particular care and can pass through one or more pregnancies with little or no danger.

Such a discrepancy among supposedly competent observers must mean a difference of opinion as to what constitutes a cardiac lesion. It has been estimated that approximately 10% of all pregnant women develop heart murmurs during pregnancy, while many more show from time to time symptoms referable to the heart, which entirely disappear with rest and relief from strain. If all of these cases are to be considered as cardiacs, heart disease may be well considered as largely unimportant, since in the majority of cases, the signs and symptoms clear up entirely under rest, and the patient passes through the remainder of the pregnancy and labor entirely without symptoms, as long as she avoids definite over-strain, while examination after delivery shows no trace of any cardiac damage.

In approximately 2% of all pregnant women, however, a definite cardiac lesion is present and in approximately $\frac{1}{2}$ of these cases, the life and after-health of the patient are directly dependent on the care which she receives. Such an overwhelming majority of the cardiac cases seen during pregnancy either have some congenital heart defect or have, at some time in the past, suffered from one or more attacks of rheumatic heart infection, which have caused permanent damage, that only these two groups will be considered in this paper.

Congenital heart disease of a serious nature complicating pregnancy is comparatively rare, and the prognosis, in patients who have not suffered from a super-imposed rheumatic infection, is, as a rule, favorable, since the majority of children with severe congenital lesions either die in childhood or are always cardiac invalids, and pregnancy is comparatively rare in the more severe types. Since then, only the milder cases are likely to be exposed to the dangers of pregnancy, unless there is a super-imposed rheumatic infection, this group may be expected to do well, if properly cared for. Careful observation during pregnancy and an intelligent selection of the method of delivery are important,

but since the heart muscle is normal, the outlook is, as a rule, favorable.

The great majority of the cardiac patients, however, have had in the past or more attacks of rheumatic heart infection, which have left more or less permanent damage. Although the condition of the heart muscle and its ability to respond to the increasing strain of pregnancy which finally culminates in labor, is the factor on which ultimate success or failure depends, it is not possible to estimate with complete accuracy the degree of cardiac reserve in a given case, and we, therefore, classify the cases primarily according to the valvular lesions present, since certain lesions throw more strain on the damaged cardiac muscle than do others. Mitral stenosis is the most serious of the valvular lesions and its importance is increased in combination with aortic lesions. Aortic lesions come next in order, while uncomplicated mitral insufficiency is almost negligible. In my opinion, the presence of mitral stenosis or of an aortic lesion affords sufficient grounds for considering the patient as at least a doubtful risk, requiring most careful observation; even though no symptoms referable to the heart are, or have ever been, present. The patient who has had only a single attack of rheumatic infection many years previously, and who has never developed any sign of cardiac failure, or been handicapped in her ordinary activities is, as a rule, a good risk for one or more pregnancies, provided she is kept under careful observation throughout, avoids unnecessary strain, and the method of delivery appropriate to her condition is selected, but such a patient should never be treated as a normal risk.

On the other hand, a patient who has had repeated attacks of rheumatic infection or who has been handicapped in her ordinary activities by cardiac symptoms or signs of failure, is, to say the least, a serious risk, and may either die or be left an invalid in spite of the best care, if she is allowed to go through pregnancy and labor. Between these extremes, many gradations exist, which call for the most expert knowledge, before the patient can be properly classified, and indeed, in many cases, the possibility of a successful pregnancy can only be determined definitely by trial, under such careful observation as will permit complete regulation of the patient's mode of life.

Patients who have cardiac disease may be roughly sub-divided into:

1. *Moderately Severe Cardiacs.* Patients who have suffered serious cardiac damage as a result of rheumatic infection in the remote past, but have never developed cardiac failure although their activities are more or less limited.

With a subdivision—1-A. Severe cardiacs, which includes patients who have suf-

ferred from definite failure, either during previous pregnancies or when not pregnant, or who are showing signs of decompensation at the present time, and also patients who have had recent attacks of rheumatic infection.

2. *Mild Cardiacs.* Patients with definite cardiac lesions which have never caused symptoms.
3. *Possible Cardiacs.* Patients who have cardiac symptoms but in whom no lesions can be demonstrated.

For the purposes of this paper, it seems better to reverse the order and consider Group 3 and Group 2 before taking up Group 1.

Group 3—Possible Cardiacs

In this group belong the patients who give no definite history of a rheumatic infection and in whom no definite lesions can be demonstrated, but who, nevertheless, develop symptoms referable to the heart during pregnancy, such as dyspnea, paroxysmal tachycardia or transient murmurs which disappear upon rest. Some of these patients are undoubtedly true cardiacs of a very mild type, but in the great majority, the underlying factor is either a neurosis or a flabby heart muscle. These patients should be watched carefully throughout pregnancy and cautioned against unnecessary exertion, but no other precautions are necessary either during pregnancy or at the time of labor, unless the symptoms tend to increase, in which case, their activities should be sufficiently curtailed to relieve the symptoms.

Group 2—Mild Cardiacs

This group includes the patients who have had a single attack of rheumatic heart infection during childhood, which has left traces of damage in the form of a definite cardiac lesion, but in whom the cardiac muscle has been so slightly affected as to cause no limitation of the normal activities. No patient should be included in this group who has:

- 1—A grossly enlarged heart,
- 2—A diastolic murmur,
- 3—Signs or history of heart failure, or
- 4—Serious disorders of the heart beat, as auricular fibrillation.

The only care which is necessary in these cases is that the heart should be carefully watched throughout pregnancy and that the increasing strain of pregnancy should be compensated for by the avoidance of any unusual exertion. Labor should be made as easy as possible and the second stage should be cut short by early delivery with forceps under ether, but radical means of delivery are seldom, if ever, necessary. In this group, the cardiac damage is so slight that repeated pregnancies are relatively safe. I feel, however, that each pregnancy reduces to some extent the reserve power of a

heart which is even slightly damaged, and that, therefore, there is some risk that unless the number of pregnancies is limited, cardiac symptoms will eventually develop to curtail the patient's activities as she grows older, and that in all probability, each pregnancy will shorten her life to some extent. Proper care during pregnancy and at the time of labor will undoubtedly minimize this danger.

Group 1—Moderately Severe Cardiacs

In this group are included all cases who show any of the signs enumerated above, that is, a greatly enlarged heart, a diastolic murmur, signs or history of heart failure, and serious disorders of the heart beat. The majority of the patients in this group have had either repeated attacks of rheumatic infection or a comparatively recent attack with the result that more or less serious damage has been caused to the heart, in the form of a definite mitral stenosis or aortic lesion, while the heart muscle has been so badly damaged as to render necessary a definite limitation of the ordinary activities, even though no attack of definite congestive failure has resulted. These cases must be classified as border-line cases, since under the best conditions of care, with constant watchfulness for signs of approaching decompensation and the avoidance of all possible causes of increased cardiac strain both during pregnancy and at the time of labor, failure may result. It may be possible to bring these patients through one or more pregnancies with but little apparent increase in the cardiac damage, and yet cardiac failure may, and sometimes does supervene in spite of the greatest care, and the patient may be left as a cardiac invalid or lose her life as a result of the pregnancy. A woman in comfortable circumstances who can lead a semi-invalid life has a better chance of a successful outcome with a minimum of increased damage than does a working woman, but the prognosis must be considered doubtful at the best. I believe that in this group, each pregnancy lowers the cardiac reserve very definitely and that the patient pays a price, in the shortening of her life as well as in the curtailment of her future activities, for each child, while cardiac failure may develop in any pregnancy in spite of the best care, and may result in death or invalidism, with or without a living child.

Group 1-A—Severe Cardiac

In this group belong the patients who have had either repeated attacks or a recent attack of rheumatic infection with severe cardiac damage, and who have not only suffered a definite limitation of activities, but have developed signs of cardiac failure either during previous pregnancies or when not pregnant. If the last attack of acute infection has occurred within two or three years, even though there is no his-

tory of a definite failure, the patient should be included in this group. Although it may be possible to carry such a patient to term and deliver her successfully, if she is coöperative, the danger to her life and health is so great as to render the trial unwarrantable under most circumstances. Furthermore, the subsequent period of cardiac invalidism is sure to be prolonged even if it is not permanent, and pregnancies should be advised against in such cases. If the patient is already pregnant when she first seeks advice, abortion and sterilization should be unhesitatingly advised as a life-prolonging if not a life-saving measure, particularly if she already has one or more children. The number of patients in this group who either die during pregnancy and labor or are left as cardiac invalids is so great, and the impossibility of giving an absolute prognosis, even under the best conditions, is so evident, that all of these patients should be considered and treated as bad risks unless the having of one child is of such importance to the patient, that, after having the risks carefully explained to her, she elects to accept them.

The problems which confront us in dealing with cardiac patients are often difficult or impossible of solution, especially when advice is sought as to the advisability of attempting to have children. It is easy enough to give a group prognosis and say 8 out of 10 hearts of a given type will react in a certain way, but the individual prognosis, which is what interests the patient, must be always somewhat indefinite. The Obstetric Cardiologist is able to foretell the patient's future more accurately than either the Obstetrician, or the Cardiologist who sees few pregnant patients, but even he is sometimes at fault and in spite of the best care, combined with intelligent coöperation on the part of the patient, unfortunate results sometimes occur. If a patient belongs to the class who would like to have children, but does not care to assume serious risks for the sake of having them, the answer is easy, pregnancy should be avoided. If she belongs to the mild or possible cardiac group, pregnancy under proper supervision carries with it little or no immediate risk to life, and only a slight risk to future health, but if she belongs in the moderate or severe cardiac groups, pregnancy should be avoided, especially in the latter class.

If, however, the patient is one of the apparently large group of women who feel that life is a failure unless they can have children, the problem is more complicated. The answer is relatively easy except in groups 1, the moderate cardiacs. In groups 2 and 3, the mild and possible cardiacs, pregnancy is not dangerous, although the cardiac condition will probably be made somewhat worse. In group 1-A, the severe cardiacs, pregnancy even under the best conditions not infrequently means death or in-

validism, and very probably without a living child, so that the attempt at having children should be forbidden.

If the patient belongs in group 1, but has never had severe cardiac symptoms, has had no recent attack of rheumatic infection, and has never been decompensated, the problem is not a simple one. Pregnancy should be undertaken in such cases only after the risks have been explained to the patient so carefully that she fully appreciates them, and if she is in a position to receive adequate care. The rules of life which the patient must follow throughout pregnancy must be carefully outlined, and the fact made clear that, in spite of every precaution, cardiac failure may supervene at any period requiring termination of the pregnancy, with the result that she may die or be left a cardiac invalid without a living child as compensation, and that at the best some shortening of life and premature curtailment of activity is sure. If she elects to assume the risks, in spite of this plain statement of facts, it is her own responsibility, and it then becomes our duty to safeguard her interests as carefully as possible.

Patients who seek advice after pregnancy is an accomplished fact should be grouped in a similar way. The severe cardiacs, that is, those in group 1-A, if seen before the sixth month of pregnancy and indeed at any stage of pregnancy should be advised to have the pregnancy terminated immediately, and future pregnancies made impossible by abdominal abortion and sterilization, the sooner the better, unless definite evidences of decompensation are already present. In case signs of cardiac failure are already apparent, the patient should be put to bed and an attempt made to restore compensation by absolute rest, abdominal abortion and sterilization to be performed as soon as the patient's condition becomes satisfactory or when it becomes evident that the attempt to restore compensation is a failure.

If first seen after the end of the sixth month and the child is of sufficient importance to warrant a definite risk to the mother, the patient's life should be regulated with extreme care, most of her time being spent in bed, until the child is sufficiently well developed to have an excellent chance for life, that is, until two or three weeks before term, when the patient should be delivered by Caesarean Section and be sterilized. If signs of cardiac failure develop at any time during this interval and restoration of compensation under conditions of absolute rest in bed fail, immediate delivery is called for, irrespective of the child's interests, Caesarean Section under local anesthesia followed by sterilization being the operation of choice.

In every cardiac case, no matter how mild, pregnancy should be carefully supervised in order to avoid unnecessary strain on the heart, but in groups 2 and 3, no serious apprehension need

be felt as to the outcome of pregnancy and labor or as to the patient's future, whereas any patient in group 1, that is, the moderate cardiacs, may become a desperate risk at any time during the pregnancy. Definite rules for the conduct of pregnancy in patients with moderate cardiac disease should be laid down and their importance explained. If the patient is unable or unwilling to follow this routine, the termination of pregnancy and sterilization is the only safe course, since otherwise, cardiac failure with its attendant consequences may ensue at any time, requiring the termination of pregnancy under adverse conditions and resulting in serious harm to the patient if not in her death.

The following rules should be followed in these cases:

- 1—Constant supervision. Patient should be seen at least once a week throughout pregnancy, and should be examined carefully for signs of approaching failure, including edema, dyspnea, cyanosis, cough, hemoptysis, rales in the lungs, especially at the base, and so forth. The urine should be examined for albumin once a week, this being a possible sign of renal congestion. A rise in blood-pressure should be regarded as distinctly unfavorable on account of the extra strain thrown on the heart, while the development of a definite pre-eclamptic toxemia is an especially unfavorable complication.
- 2—Active exercise should be forbidden, especially hill-climbing or walking on a cold, windy day. Going over the stairs should be reduced to a minimum. Fresh air and sunlight are best provided for by driving or sitting in the sun in an open window, or on a piazza. Colds and other infections should be carefully guarded against.
- 3—The patient should spend two hours a day and one day a week in bed during the first seven months and three hours a day and two days a week during the last two months. If any signs of failure develop, absolute rest in bed should be insisted on, and if the signs increase in spite of rest, prompt delivery by Caesarean Section under local anesthesia followed by sterilization will prove the most satisfactory treatment.
- 4—The diet should be moderate in amount and well-balanced. Bowel action should be maintained by use of appropriate cathartics and a moderate but not excessive fluid intake provided for.
- 5—Light massage will prove of advantage in most cases to compensate for the lack of exercise, but it must not be carried to the point of causing any symptoms of exhaustion.

Under this routine, the majority of patients in Class 1, and a certain number of the more severe cases in Class 1-A, may be expected to

pass through the pregnancy safely and with a minimum of cardiac strain and resultant damage, and may be even carried safely through two or three pregnancies, but each pregnancy adds distinctly to both the immediate and remote risks, while in a considerable proportion of cases, symptoms of cardiac failure will supervene and render the operative termination of pregnancy necessary. In rare cases, the patient may die suddenly, either during the pregnancy or the puerperium, almost without warning.

Whenever any signs of cardiac failure appear before the child is viable, an attempt should be made to restore compensation by absolute rest in bed. If this attempt is not promptly successful, the pregnancy must be terminated without delay. If improvement occurs, the pregnancy should be terminated as soon as the limit of improvement seems to be reached. Since in such cases future pregnancies are contra-indicated, and since the use of a general anesthetic is distinctly dangerous in patients with cardiac failure, the best method of delivery is by abdominal abortion followed by sterilization, under local anesthesia, preceded by morphia and scopolamin. In a certain proportion of these cases, a small amount of nitrous oxide gas or ether may be necessary in addition in order to secure complete relaxation, but as a rule, this is unnecessary. After delivery, patient should be kept in bed for at least three weeks in order to render the cardiac recovery as complete as possible.

If compensation can be restored by rest in bed, the future treatment will depend on the circumstances in a given case, but in all cases, the patient should be confined to bed until ready for delivery and carefully watched for signs of recurrent failure. If no further signs of failure appear, delivery may usually be safely undertaken after a two to three weeks' interval. If the failure has occurred before the end of the sixth month of pregnancy, prompt delivery by Caesarean Section and sterilization at the end of the three weeks' period is the safest procedure and in these cases a general anesthetic is usually safe, if preferred by the operator, provided satisfactory compensation has been re-established.

If, however, the signs of cardiac failure persist after the patient has been absolutely confined to bed for a week, immediate operation is advisable, and earlier if the signs increase.

When the child is of unusual importance as in primiparae or women without living children, an attempt may be made to prolong the pregnancy into the last month in the interest of the child when delivery should be accomplished by Caesarean Section followed by sterilization. This course adds distinctly to the maternal risk, both immediate and remote, and is only justified when the child is of unusual importance and the mother can be kept absolutely in bed during the intervening period.

When the first signs of cardiac failure appear

late in, or after the end of the sixth month, and the heart responds satisfactorily to absolute rest in bed, the pregnancy may be carried on well into the last month, if the child is of sufficient value to warrant the increase in maternal risk, though seldom fully to term, the patient being absolutely confined to bed. She should then be delivered as above. If, however, restoration of compensation fails, or if signs of recurrent failure develop, at any time the prompt termination of pregnancy is indicated.

With patients who do well under the routine life prescribed, and show no signs of failure, the method of delivery is perhaps open to question. I personally believe that all class I primiparae should be delivered by Caesarean Section at or near term under the method of anesthesia preferred by the operator. Sterilization is only advisable in those cases for whom future pregnancies are considered to be too dangerous, but if there have been no signs of failure at any time, another pregnancy after a fair interval, at least two years, may be permissible. In multiparae, a short first stage of labor will do little harm and if delivery is promptly accomplished by operative means as soon as the cervix ceases to be an obstacle, thus relieving the heart of the strain imposed by the changes in blood-pressure induced by the bearing-down second stage pains, a minimum of damage will result. If, however, it is felt that further pregnancies are undesirable, Caesarean Section and sterilization or sterilization a few months after delivery, are indicated, since in my experience, advice to a cardiac patient to avoid future pregnancies is usually futile and it is wiser to protect a patient absolutely by sterilization.

The objects to be sought in the care of a cardiac patient are:

- 1—a living mother.
- 2—a reduction of the damage to the diseased heart to a minimum, and
- 3—a living child.

The relative importance of these objects is open to some difference of opinion, but I feel personally that cardiac invalidism is too big a price to be paid for a child, and that the child is of relatively small importance compared with the maternal life or health, especially if there are other children. We must consider not only the immediate result in formulating our advice to the patient, but also look as far into the future as possible and remember that each patient with a seriously damaged heart pays a very definite price for each attempt of child-birth, and therefore terminate pregnancy early to relieve the heart in appropriate cases, and choose the method which carries with it the least strain.

In conclusion, I would say that cardiac disease is one of the very important factors in obstetric mortality, but I believe that the procedures that I have outlined above will give satisfactory results on the whole, although no meth-

od can be expected to give perfect results in any class of patients on whom it is impossible to estimate accurately the powers of resistance of a given organ.

CHAIRMAN BENNER: The discussion of this paper will be opened by Dr. Burton E. Hamilton of Boston.

Dr. Burton E. Hamilton read his prepared discussion, illustrated by charts.

DISCUSSION

BURTON E. HAMILTON (Boston): I will briefly give and discuss some of the statistics from the Boston Lying-in Heart Clinic to which Dr. Newell has referred.

Close to 7½% of all the cases are referred to the Heart Clinic for diagnosis. These are classified into three big divisions:

Class I. Those with seriously damaged hearts. 207 cases: 52 had congestive heart failure; 18 maternal deaths, 8.5%; 46 baby deaths, 22.0%.

Class II. Possible hearts: those with uncertain signs or with signs of only moderate heart damage, but including many with a history of rheumatic fever. 276 cases: no heart failure; 2 maternal deaths, 0.7%; 11 baby deaths, 4.0%.

Class III. Those with no heart disease, but with functional disturbances falsely suggesting heart disease. 149 cases: no heart failure; no maternal deaths; 7 baby deaths, 4.7%.

It is to be remembered that all the Class I cases have had very special cardiac and obstetrical care, while the Class II and Class III cases have had no special care unless indicated for some reason other than their cardiac condition.

Proper classification then is essential to accurate care of cardiacs in pregnancy.

All but 14 of the Class I cases had rheumatic heart disease. Ninety-five per cent. (95%) of these are so classified because of mitral stenosis. This diagnosis is made on a characteristic murmur. One should search all patients who are pregnant for this murmur. It is the most difficult single physical sign to learn that I know, that one can learn to determine with practical certainty and that is also of great importance. Only 1 to 1.5% of pregnant women have it. But this small percentage,—and this will be hard to believe,—furnished 20% of all maternal deaths at the Boston Lying-in Hospital over a four year period; 28% of all the maternal deaths in the obstetrical wing of the Faulkner Hospital over a seven year period.

Perhaps this would be of no great interest could nothing be done about it.

The following table shows that in the first two years the heart clinic was conducted there were 68 cases of Class I cardiacs, with 17.7% maternal deaths. The last three years there were 133

cases of Class I cardiacs, with 3.8% maternal deaths.

To what is this reduction in maternal mortality due?

The improvement has not been affected at the cost of a high baby mortality. Every cardiac patient who came to the hospital pregnant, and from any cause failed to have a living baby at discharge, was counted in the baby mortality. On this basis, the baby mortality among Class I cardiacs was 26.5% for 1922 and 1923, and 19.9% for the last three years. So the improvement in maternal death rate was not obtained by wholesale interruption of pregnancy.

Of course, the joint obstetrical and cardiac care of these patients has improved by the years of experience. But the obstetrical care and the facilities offered by the hospital certainly were very good even at the start of the clinic.

It appears to me as I have watched the change, that the reduction has been due to: (1) *Early recognition of the cases.* (2) *Stubborn pre-natal control of the patients.*

Some maternal deaths among cardiacs, to be sure, are sudden, unexpected and largely unavoidable. Even under present conditions the maternal mortality for Class I cardiacs, 3.8%, is roughly twenty times as high as the mortality for normal women. But the great majority of deaths occur in and because of severe decompensation. Decompensation is largely preventable.

Granted the best obstetrical care, heart failure in cardiacs very seldom occurs for the first time during or following delivery. In nearly every case where it occurs before delivery, it can be traced to:—

- (1) Failure to recognize the heart condition early (often this is the patient's fault for not appearing early in pregnancy).
- (2) Insufficient instruction of the patient.
- (3) Disobedience of rules by the patient.
- (4) Breaking the rule that if failure once occurs, even if it clears in a few hours, the patient belongs in bed until delivered.

CHAIRMAN BENNER: Dr. Kellogg, have you anything to say?

DR. FOSTER S. KELLOGG (Boston): I do not think it is possible to disagree with what Dr. Newell has said especially in view of the figures that Dr. Hamilton shows. Perhaps on two points I feel a little bit differently. One is that I think ether is the choice of anesthesia and not morphin-scopolamin. This opinion is based on my own experience with both anesthetics when I did a series of cases that Dr. Newell saw, one year when the subject was especially assigned. I feel that even the decompensated cardiac stands ether perfectly well. I do not know and nobody has been able to tell me enough about scopolamin so I can feel sure that if you give a pregnant cardiac enough scopol-

amin to section and sterilize her she may not die of the scopolamin. Also if your scopolamin-morphin and local fail and your patient gets an excitement reaction to it, the change during the process of that excitement to a general anesthetic may, it seems to me, occasionally result in death on the table. I have seen one case of each sort in which I thought death was attributable to these causes.

The other difference is that I personally feel that it is almost never justifiable to do a cesarean section on a multiparous cardiac merely because you want to sterilize her. In the hospital of course it is a great temptation to do that because we say to ourselves we will never get this patient back to sterilize her, when she comes back she will be pregnant again and we will be faced with the same problem.

In private practice you can always control your patient, I think, and get your cardiac back for sterilization four months or six months later, with a risk of only half of one per cent. in your operation as against your cesarean risk in cardiac probably of something like four or at least three per cent.

Dr. Hamilton's control of the cardiac prenatally leads me to feel that if we stressed the effort to get them back before they had a chance to get pregnant, we might be able to do it in more cases and so avoid the higher cesarean risk.

DR. FRANKLIN S. NEWELL (Boston): I disagree with what Dr. Kellogg said about the question of ether. I should say that my personal experience lends me to take the opposite view. I recall very well a patient decompensated cardiac about four months pregnant, who had previously been examined by Dr. W. H. Smith. I do not know any better cardiologist in non-pregnant patients than Dr. Smith, but he has not followed enough pregnant patients for his opinion to be of the same value during pregnancy. He said the patient could take ether perfectly well although she had been under treatment several weeks without restoring compensation, but she died before she was fully etherized. I remember that I was scrubbing for operation at the time when the house officer came in and said, "She's dead, sir."

I have therefore always felt that ether was a considerable risk to decompensated cardiacs. On the other hand, I have delivered patients who have done badly under morphin scopolamin by etherizing them and again I did not like the effect of the ether. One patient was too restless under morphin scopolamin to have the operation done under local anesthesia. Under ether she was pulseless throughout the whole operation. It hurt me a great deal to have the etherizer say, "She is pulseless," although it didn't do her any ultimate harm.

In regard to the advisability of sterilization

of a multipara after Cesarean Section the statement is made that the operation entails a three or four per cent. mortality. I will agree you have to face a slightly higher mortality than after a pelvic delivery but I doubt very much if you have a higher mortality than for a normal delivery plus a future sterilization. I like to give the patient one anesthesia, operate on her once, and protect her against future pregnancy and future operations. I think it is rather less dangerous than to divide it into two operations, and it avoids the occasional misfortune of having the patient come back inside of three months to have an abortion done and sterilization at that time. (Applause.)

CHAIRMAN BENNER: Some years ago I took care of a patient who had been taken care of previously by Dr. Peterson of Ann Arbor. She told the nurse that it was a great comedown for her to be taken care of by me after having had Dr. Peterson before. My feelings were not hurt at all because I knew she was right.

One reason Dr. Peterson has been willing to come here to speak to us I think is because he has a great fondness for Boston. He is a graduate of the Harvard Medical School, the Boston City Hospital, and feels at home here with us in Massachusetts. Dr. Peterson. (Applause).

DR. REUBEN PETERSON (Ann Arbor, Mich.): Mr. Chairman and Members of the Section, Ladies and Gentlemen: I used to belong to the Massachusetts Medical Society. I joined it in 1889. I remember very distinctly at that time we were internes at the Boston City Hospital. We held a little conference because we didn't know exactly what questions would be asked of us. We had been having some curious cases on the surgical side. A man you all honor in this city, Dr. Burrill, was very much interested at that time in the treatment of compound fractures. Somehow, some of these fractures had not turned out very well, and as internes will, we discussed them. I said in an unguarded moment that if Dr. Burrill asked me how I would treat a compound fracture, I certainly would tell him.

So we filed into this examination room and Dr. Burrill was among the examiners. When it came my turn to be examined by Dr. Burrill, almost the first question he asked me was, "How would you treat a compound fracture?"

I had forgotten what I said I was going to do. One of the internes behind me reminded me of it. I said, "I would cut down on this compound fracture and I would put in some screws." He nodded as if that was good treatment. I said, "If that doesn't work, I would tin it." He also nodded his approval. Then I said, "When my term of service was finished in the hospital, I would leave it to my successor to dig out these things." (Laughter.)

Dr. Burrill looked at me and finally said,

"Peterson, any man who has the gall you have shown in your answer is worthy to be a member of the Massachusetts Medical Society." (Laughter.) So I was elected.

A REVIEW OF 2000 PATIENTS RECENTLY REGISTERED IN THE GYNECOLOGIC CLINIC OF THE UNIVERSITY OF MICHIGAN HOSPITAL WITH SPECIAL REFERENCE TO ABNORMAL BLEEDING*

BY REUBEN PETERSON, M.D., F.A.C.S.

In order to ascertain the frequency and causes of abnormal uterine bleeding, two thousand case records of patients recently registered in the Gynecologic Clinic of the University of Michigan Hospital were reviewed and studied. The patients were registered consecutively in the clinic during the twenty months from the opening of the new Hospital July 1, 1925, to March 1, 1927.

The patients were almost entirely from the State of Michigan and represented a cross section of women suffering from diseases of the genitalia as met with in general practice. They were distinctly gynecologic patients, since the obstetric patients are assigned to the maternity division of the clinic located in a separate building. In order to eliminate as far as possible septic patients from the active obstetric service, cases of abortion and postpartum sepsis are assigned by preference to the gynecologic service.

The investigation has been conducted along practical lines. By this is meant that the classification of the cause of the bleeding has been based upon facts proved to be true by years of practice. What is known has been adhered to but what is merely theoretical has been passed over. It is easy in considering the causes and treatment of uterine bleeding to wander far afield. Endocrinology, for example, is a fascinating field for investigation but it is a comparatively new subject with a few facts well established but much of our knowledge of the internal secretory organs is contradictory and at present in the experimental stage. It is unwise and not in the best interests of our patients to abandon old and tried methods of diagnosis and treatment of abnormal uterine bleeding and depend upon newer methods, far less reliable, which may lose valuable time for the patient.

Of the 2000 women examined, 476 or 23.8% were judged to have menorrhagia, metrorrhagia, a combination of the two or post-menopausal bleeding. Practically one-quarter of the women, then, who applied or were referred to the clinic, not all for excessive bleeding to be sure, had this symptom to such a degree as to warrant inclusion in one of these groups. A careful detailed

*From the Department of Obstetrics and Gynecology, University of Michigan.

history is absolutely necessary to determine if there be in reality an excessive flow. As is well known, each patient has a menstrual habit peculiar to herself. Increase in the duration of the flow, the amount lost at each period, or a too rapid recurrence of the menstrual flow may be considered a menorrhagia for that particular individual even if the amount of blood lost be less than with another patient of an entirely different menstrual habit.

Metrorrhagia, in contradistinction to menorrhagia is a loss of blood between the menstrual periods. It is a flow of blood from the uterus unconnected with the ovarian impulse giving rise to the regular menstrual period. It may be preceded by an amenorrhea as in the metrorrhagia or abortion or ectopic pregnancy or without such a history may arise from other causes in the intermenstrual periods.

Since uterine bleeding after the menopause is independent of the ovarian impulse, strictly speaking it may be regarded as a metrorrhagia. However, uterine bleeding at this time of life is so apt to be significant of serious uterine disease as to make it desirable to designate it as postmenopausal bleeding in contradistinction to the metrorrhagia of active sexual life.

At times it is difficult to distinguish between menorrhagia and metrorrhagia since they merge one into the other. In some cases the menstrual period is so prolonged or recurs so frequently as to make it difficult to distinguish between the two. In reality such differentiation is of little value, the main thing to be determined being the cause of the bleeding and the appropriate treatment to be applied.

Of the 476 patients with excessive uterine flow 321 were admitted to the hospital and treated as in-patients. The others, 155 in number, were out-patients seen and examined usually but once or at most a few times. The case reports of out-patients since they lack the final complete diagnosis only to be obtained from careful microscopic examination of removed tissue were merely utilized to ascertain the frequency of the uterine bleeding in the total number of patients examined.

The 321 hospital cases with excessive uterine flow were considered in accordance with their clinical histories and pathologic findings in six groups as follows:

Total number of cases, 321

1. Associated with pregnancy	57 or 17.7%
2. Malpositions and lacerations of uterus	64 or 19.9%
3. Inflammatory conditions of uterus and appendages	33 or 10.2%
4. Non malignant growths	77 or 23.9%
5. Malignant growths	74 or 23.05%
6. Miscellaneous	16 or 4.9%

In a discussion of the various causes of excessive bleeding leading to an assignment of the cases in the different groups, it is at once ap-

parent that in a limited time only general principles can be considered. It must also be borne in mind that no classification can ever be entirely satisfactory since in not a few cases the findings warrant placing the case in more than one group. Under such circumstances group assignment has been determined by the condition most important from the standpoint of uterine bleeding.

GROUP 1

Associated with pregnancy

Incomplete abortions	42
Active abortions	6
Ectopic pregnancies	7
Threatened abortions	2
	57 or 17.4%

In addition to the complete abortion with a history of exposure, amenorrhea and partial emptying of the uterus accompanied by contractile pains and loss of blood, there is another class of cases where the condition is quite unsuspected. The bleeding caused by the retention of gestation products resulting in the so-called nonresolution endometrium is not characteristic although the cause is always the same, prior pregnancy. I know of no condition giving rise to more surprises in diagnosis than this.

A detailed and careful history will not infrequently reveal a period of amenorrhea preceding the menorrhagia or metrorrhagia although the patient herself has not suspected the bleeding to be due to an interrupted gestation. Bleeding from this cause can occur at any age during the period of sexual activity but in our experience it is especially frequent as the woman approaches the menopause. In fact, the amenorrhea may be confused with irregularity at this period of life. In addition there may be a history of years of sterility. Without suspecting she has been pregnant the patient seeks advice for the profuse bleeding fearing she has uterine carcinoma. This condition should not be confused with subinvolution of the uterus where the cause of the bleeding is an infection of the uterus following usually full term labor. In the first condition the uterus need not necessarily be enlarged and there is no history of infection.

The conservative treatment of abortion is the rule of the clinic. Only rarely when the blood loss is too great or the products of conception have become infected and because of ineffectual pains with no signs of extrusion of the uterine contents are the placental forceps and the dull curette resorted to. The diagnosis in many of the cases listed above was made not by a curettage but by microscopic examination of the cast off products.

There were comparatively few cases of uterine bleeding associated with ectopic pregnancy placed in Group 1 since such patients are cared

for in their own towns after rupture and are not referred to the clinic. It has been found from a study of the ectopic pregnancies treated in the clinic that bleeding of a moderate type is present in about 85 per cent. of the cases. This bleeding is unlike menstrual blood in that it clots and is darker in color. When present it is a valuable aid to diagnosis when accompanied by a missed or prolonged period and a sudden sharp attack of pain in the lower abdomen.

GROUP 2

Malpositions of the uterus and lacerations of the cervix

Cervical lacerations without uterine malposition	31
Cervical lacerations with malposition	19
Malpositions alone	14
	64 or 19.9%

Malpositions of the uterus and lacerations of the cervix with resulting ectropion, erosion and endocervicitis are frequent causes of increased uterine flow.

It seems to us that these pathologic conditions are more frequent than formerly due to the wave of ill advised radical obstetrics which is sweeping the country. At the present time, while the majority of cervical lacerations following normal labor heal spontaneously, this is not true when ill directed efforts at delivery have resulted in deep cervical tears and the normal supports of the uterus have been interfered with through unjustified obstetric manipulations. Moreover the attendant who will not allow time for the cervix to dilate properly but does manual dilatation and delivers by forceps or version is the possessor of the type of mind that scorns aseptic technique. The resulting infection adds to the damage done by obstetric interference, gone mad, and uterine subinvolution follows, a pathologic condition difficult to cure except in its early stages.

The pathologic picture varies from a hyperplastic endometritis with an enlarged uterus and increased flow from an organ in fairly normal position to that of a uterus whose cervix is the seat of deep bilateral or stellate tears. The lips of such cervixes are hypertrophied, everted and eroded. If the uterus be enlarged and retroverted with or without prolapse, bleeding and leucorrhæal discharge are more marked and add to the patient's distress and weakness.

Many of these conditions occur in women between thirty and forty and lead to the suspicion of malignant disease. It is usually necessary to eliminate carcinoma of the cervix and uterine body before resorting to the series of operations essential to the cure of the patient. Besides the curettage, the lacerated cervix must be repaired or amputated in the worst cases, the pelvic floor, reformed and the malposed uterus restored to its normal position by the appropriate surgical procedure.

I am not in sympathy with those who decry the use of the curette or who claim the retroverted uterus gives rise to no symptoms. The uterine curette is a valuable instrument, practically indispensable when properly employed. It should not be done away with because its use has been abused. In the same way because retrodisplacement operations are unnecessary in certain cases when a mobile organ is giving rise to no symptoms, does not mean that symptoms will not disappear when such operations are performed for the proper indications.

GROUP 3

Inflammatory conditions of the uterus and appendages

Uterus and cervix	5
Adnexa	17
Generalized	11
	33 or 10.2%

Considering the large number of cases of inflammation of the uterus and adnexa in the 2000 cases reviewed, increased flow from the uterus was noted in a small proportion of cases. This agrees with our previous observations. Most of the cases were of gonorrheal origin and chronic. Where the inflammation was limited to the cervix and uterus there were few cases of increased flow, the large percentage being noted when the adnexa were also involved or where there was a chronic infective process involving the entire generative tract, uterus and its appendages and the cellular tissue.

It would seem that hyperemia of the ovarian tissue has a rôle in producing the increased bleeding, although changes in the endo and myometrium undoubtedly play a part. In our experience the abnormal bleeding is rarely serious and tends to become normal as the infection subsides.

Treatment should never be directed toward the interior of the uterus during the acute stages of the infection. Intrauterine exploration and especially curettage even in the chronic inflammatory lesions of the uterus and adnexa are contraindicated since they accomplish little and may start the trouble anew. One rarely meets nowadays with what was quite common formerly, cases of virulent infection, since pelvic infection has been treated more conservatively.

GROUP 4

Nonmalignant growths

Uterine fibromyomata	58
Uterine polyp	10
Ovarian cysts	9
	77 or 23.5%

This and the next group of malignant new-growths furnish the greatest number of cases of increased uterine bleeding.

The fifty-eight cases of fibromyomata in this group illustrate all varieties of bleeding to be

met with in connection with these newgrowths. In some, the fibroids were small and submucous giving rise to a slight menorrhagia. In others the submucous growths were of larger size at times pedunculated and protruding into the endometrial cavity and the patients had bled continuously for many months. Many of these patients were practically exsanguinated requiring blood transfusion before the growths could be removed.

The type of bleeding from fibroids is as a rule an increase of the regular menstrual period—a menorrhagia. However, a continuous bleeding, a metrorrhagia is not at all uncommon. Menstrual life is often prolonged at times well beyond the age of fifty.

As is well known, bleeding from a fibroid tumor is not determined by the size of the growth but by its location. Small submucous fibroids may cause profuse hemorrhage, which in enormous subserous growths hemorrhage may be absent. The bleeding may give rise to serious changes in the cardiovascular system besides weakening the patient's resistance to intercurrent disease.

Because fibroid tumors are benign, the dangers of malignant changes in the tumor itself or in neighboring tissues are not fully appreciated. It is the practice in the clinic at present to investigate thoroughly the endometrial cavity before a myomectomy or hysterectomy, in order to avoid the surprises caused by finding adenocarcinoma when a supravaginal hysterectomy is performed. Moreover, careful microscopic examinations should be made of all fibroid specimens in order to be prepared against sarcomatous changes and a return of the disease later.

Lack of time prevents discussion of the treatment of fibroid growths of the uterus. Radium, X-ray, myomectomy, hysterectomy, each has its advocates and its place in treatment. It would seem as if there are signs of a somewhat waning enthusiasm for the treatment of these growths by radium and X-ray. This would only be history repeating itself. These agents are effective in properly selected cases but they are by no means cure-alls. Just as the question is being raised at the present time as to the advisability of removing or leaving the cervix at the time of the hysterectomy on account of the fear of subsequent development of cancer, so the last word has not been said about what will happen to fibroid tumors treated by radium and X-ray. In the meantime we use both methods of treatment but reserve our judgment regarding ultimate results.

There were ten uterine polypi, as distinguished from submucous pedunculated fibroid growths just referred to. These mucous polypi are benign and seldom show carcinomatous changes as do the other variety of polyp. They usually grow from the cervical mucous membrane but may originate higher up on the

endometrium. They may appear at any age but are very common after the menopause. While not giving rise to as profuse hemorrhages as do pedunculated submucous fibroid polyps, bleeding at times may be exceedingly troublesome.

Mucous polypi are easily removed. However, care should be taken during removal to insure, through splitting of the cervix or by the use of the placental forceps that there are no polypi higher up in the canal.

In nine instances there was abnormal bleeding in connection with multilocular cystadenomata. In five cases there was a menorrhagia and in two, both menorrhagia and metrorrhagia and in two patients beyond the climacteric there was post-menopausal bleeding and so far as could be ascertained by examinations proper to and during the removal of the growths this bleeding was not caused by uterine pathology. These facts are given for what they are worth and tend to show in this series at least, that ovarian neoplasms have a stimulating effect upon the uterine flow. There are other facts to support this view. Clinically, however, the flow in connection with newgrowths of the ovary is never of much moment and subsides after removal of the neoplasm unless it has been caused by other pelvic conditions.

GROUP 5

Malignant growths

Carcinoma of the cervix	62
Carcinoma of the fundus	7
Carcinoma of the ovaries	2
Carcinoma of the urethra	1
Carcinoma of the vagina	2
—	—
	74 or 23.05%

If carcinoma of the cervix and fundus were only seen in women after the menopause the diagnosis of the disease would be a much simpler problem. While it is true that uterine carcinoma is more frequent after the climacteric, careful statistics show quite a proportion of cases during menstrual life. In an analysis of age distribution and age incidence of cancer of the uterus in 500 cases I found that of 369 cases of cancer of the cervix 97 or 23.5% of the patients were under the age of forty, while in 94 cases of cancer of the fundus 10 patients or 10.6% were forty years of age or under. Hence, since the disease in both locations occurs during menstrual life, the text book statements that uterine bleeding from cancer of the cervix is rarely a menorrhagia but almost always a metrorrhagia are incorrect. This is shown by the present series where 16 of the 62 patients with cancer of the cervix had menorrhagia or a combination of menorrhagia and metrorrhagia.

The conclusion then, is forced upon us that if we are to discover cancer of the uterus in its early stages women with the various types of

bleeding which have just been discussed, with the exception of the inflammatory cases, must have their curettings submitted to careful microscopic examination. If such examination be delayed until there are other evidences of cancer the disease may have spread in the interim to such an extent as to preclude hope of a radical cure by any form of treatment.

Especially is it necessary to curette thoroughly the endocervix and to remove suspicious portions of the cervix for examination. In my opinion the danger of spreading the cancer from such diagnostic procedures is slight, much less than delay.

Forty-two of the sixty-nine patients with cancer of the uterus or 60 per cent. showed the first symptom after the menopause. However, in the large majority of cases the disease was too far advanced to hold out hope for radical cure by surgery although fair results have been obtained by the use of radium and X-ray. A review of the histories of these patients for the purpose of this article has been very discouraging for it has revealed that in spite of the propaganda against cancer, women have not grasped the fundamental fact that post-menopausal bleeding is always suspicious of cancer of the uterus and that the cause of such bleeding should be immediately sought. Yet the same histories show that the medical profession is not blameless in this respect. Many histories reveal that the physician was consulted soon after the appearance of the bleeding and that he treated the symptom lightly, often without an examination. In other instances the disease was treated by local agents until it was far advanced. How under such circumstances can we lay all the blame to the ignorance of the patients? I am convinced if the campaign against cancer is to be successful physicians as well as the laity must be educated.

It is interesting to note that the statement that in malignant disease of the ovaries almost always there is an increased uterine flow not due to malignant or other disease of the uterus is borne out by the two cases of ovarian cancer in which both had post-menopausal bleeding.

GROUP 6

Miscellaneous

Endocrine disturbances.....	3
Unclassified	13
	<hr/>
	16 or 4.9%

For the sake of completeness this group has been added although nothing of value can be gleaned from it. In it were placed three cases where the bleeding was thought to be due to endocrine disturbances and thirteen cases where no definite gynecologic diagnosis could be made. As stated in the first part of the paper the entire subject of endocrinology opens up a field for investigation but it is too indefinite and the

cases too few to be considered in this communication.

SUMMARY AND CONCLUSIONS

1. Practically one quarter of 2000 women recently examined in the Gynecologic Clinic of the University of Michigan Hospital had excessive uterine bleeding.

2. The 321 in-patients exhibited all types of excessive flow, menorrhagia, metrorrhagia, combinations of these and post-menopausal bleeding.

3. The hospital patients were divided into six groups in accordance with their clinical histories and pathologic findings as follows:

Total number of cases, 321	
1. Associated with pregnancy.....	57 or 17.7%
2. Malpositions and lacerations of uterus	64 or 19.9%
3. Inflammatory conditions of uterus and appendages.....	33 or 10.2%
4. Non malignant growths.....	77 or 23.9%
5. Malignant growths.....	74 or 23.05%
6. Miscellaneous	16 or 4.9%

321

4. Unsuspected, incomplete abortion is very common, especially as the woman approaches the menopause.

5. Malpositions of the uterus and lacerations of the cervix with resulting ectropion, erosion and endocervicitis are frequent causes of increased uterine flow.

6. These conditions are more frequent than formerly due to ill advised radical obstetrics.

7. Inflammatory conditions of uterus and adnexa cause increased uterine flow in only a small proportion of cases. (10.2%.)

8. Non-malignant pelvic growths are the most frequent cause of increased uterine flow.

9. The position not the size of the uterine benign growth determines the amount of the increased flow.

10. Malignant uterine growths give rise to early and profuse uterine flow.

11. Not only should every case of post-menopausal bleeding be judged suspicious of uterine cancer until proved otherwise but microscopic examination of curettings in almost all cases of increased uterine bleeding is necessary if carcinoma is to be detected in its early stages.

12. This is demanded by the fact that nearly one-quarter of the cases of cancer of the cervix occur in patients under forty years of age.

13. A study of histories of patients with uterine cancer shows that while delayed diagnosis and treatment are partly due to the ignorance of patients, the members of the medical profession are partly responsible, since they fail through lack of knowledge or carelessness to advise their patients properly.

14. With few exceptions women with abnormal uterine bleeding can be cured of this symp-

tom by careful diagnosis and the appropriate treatment.

CHAIRMAN BENNER: Discussion of this paper will be opened by Dr. William P. Graves of Boston.

DR. WILLIAM P. GRAVES (Boston): Mr. Chairman, Ladies and Gentlemen: I wish to thank Dr. Peterson for his admirable and comprehensive paper. He has covered the ground so fully that there is very little for me to add. Certainly there is nothing for me to criticize, because I agree heartily with practically every point that he has made.

The paper is a most sensible, conservative and sane exposition of the subject. He has intimated that I would say something about endocrinology. I shall say very little about it because I regret that I know very little about the subject. I assure you I know no more about it than Dr. Peterson says that he does. I shall confine most of my remarks to what is called functional menorrhagias. We are accustomed to use a simple classification in dealing with our abnormal bleeding cases. We separate them into the pathological menorrhagias or metrorrhagias and those that are functional. By pathological we mean those bleedings which have as a basis some tangible pathological anatomy. By functional bleeding we mean those cases where we can find no definite pathological lesion. The word "functional," of course, is not a good term. A better designation might be dysfunctional. The word functional gives a false sense of security to the average practitioner and encourages too much watchful waiting.

So-called functional bleeding is, strictly speaking, not purely functional, it is pathological in the sense that there always exists a basis of pathological physiology, so that it is as important clinically in many ways as is pathological bleeding.

In treating bleeding cases the procedure is very definite. Bleeding is present; it points the way; it is a warning sign. A biopsy is made under ether and if there is a pathological cause of the bleeding it is discovered at once. Dr. Peterson has wisely called to our attention the importance of the microscope in gynecological work. It is impossible to practice gynecology properly for twenty-four hours without the microscope, the freezing microtome, and someone at hand who knows how to make a pathological diagnosis.

If a pathological cause is ruled out we have next to consider the possibilities of functional bleeding. We are accustomed to divide the functional menorrhagias into three classes according to the age of the patient, for this determines our mode of treatment. In the first division we place the menorrhagias of the preclimacterium, a large and important class ranging in age from 42 to 50. The second division is the mid-men-

strual class from the late 20's to the early 40's. The third class comprises the menorrhagias of puberty, adolescence and young womanhood.

With regard to the first class, namely, the preclimacteric menorrhagias, the treatment presents little difficulty. What is the cause of this abnormal bleeding before the menopause? We do not know. The old myopathy theory that it is due to an inflammation of the myometrium has been disproved. It is not due to arteriosclerosis. I do not believe it is due to gland hyperplasia, although Emil Novak, an authority on the subject, claims that all functional menorrhagias have hyperplasia of the mucosa. In our work we find a great many cases of functional bleeding where the endometrium is actually atrophic. We believe rather that there exists a lack of contractility in the uterus due to the fact that the muscular elements have become less and the connective tissue greater so that there results a diminished contractile tone in the musculature. However, the etiology is not of vital importance since we have so simple a method of cure in radium.

In this class of cases, which we apparently find to be larger than has been noted by Dr. Peterson, we find radium most beneficial. I know of no remedy which acts so surely as radium does in these cases. It must of course be used wisely and in selected cases because there are certain instances in which its use is dangerous. In such cases one must resort to the old-fashioned method of hysterectomy, which also gives satisfactory results.

In the mid-menstrual period, functional bleedings are much less common. Most of the abnormal bleeding at that time is pathological and can easily be diagnosed, but at this period also there are some cases of functional bleeding where we can find absolutely no anatomical cause. In these cases we also have an excellent remedy in radium, but only in non-sterilizing doses. It is possible often to secure brilliant results in which the radium lessens the bleeding of the periods, and reestablishes a normal menstrual rhythm.

When we come to the last class, namely, the menorrhagias of pubescence, adolescence and young womanhood, we meet serious difficulty. In these cases a knowledge of the etiology would be most important to us. As it is, the whole subject is veiled more or less in darkness. We can, however, divide or classify these cases to a certain extent. Some of the metrorrhagias of young womanhood and adolescence, we are discovering are to be due to thrombocytopenic purpura. This is a comparatively recently known disease as far as these particular cases are concerned. I can look back and remember two or three fatal cases that I am now sure must have been purpuric.

So that in any case of a young girl with profuse menstruation the first thing to do is to

have a blood examination by an expert internist. If the blood platelets are deficient or absent and a diagnosis of purpura is made, there are possibilities of cure sometimes by splenectomy or as shown by recent reports, by radiation of the spleen.

Secondly we come to the question of an endocrine disturbance. A certain number of these young patients have a deficient thyroid activity, so that the next thing to do after the blood examination, if that is negative, is to have a metabolism test to determine the activity of the thyroid. A certain number of hypothyroidal cases in young women are menorrhagic and these patients may be benefited by thyroid extract. Cases of hyperthyroidism are very apt to be amenorrheic.

Then there is a third form of menorrhagia due to malposition of the uterus. This is a class of cases in which I have been particularly interested. I was much gratified to hear Dr. Peterson say that he believed retroposition of the uterus to be a pathological condition, that it may cause symptoms, and that a suspension operation may cure the symptoms. He was speaking especially of multiparous woman. Many young girls of seventeen, eighteen and nineteen with menorrhagia have a large uterus in marked retroversion-flexion, and there is present every evidence of congestion due to passive or active hyperemia. Those are usually called cases of "simple retroversion." We are reading of late numerous articles in the literature that maintain that an operation on a young girl for a simple retroversion is an unjustifiable, even a criminal procedure. I cannot subscribe to this doctrine. I believe that a girl with a large uterus in retroflexion ought not to be married until the uterus is put in place. Many of these patients have menorrhagia, and the menorrhagia can often be cured by a proper suspension operation. The patient is then properly prepared for marriage and motherhood, and I think the operation is not only thoroughly justifiable, but advisable.

Finally there is a fourth type of menorrhagia in young girls where we can find none of the factors of which I have spoken. These patients have normal uteri; we find nothing abnormal in the various constitutional examinations; and we are forced to the conclusion or to the probability that these menorrhagias are due to some dysfunction of the ovarian secretion. We know very little about the clinical effects of the hormones of the ovary. It is most confusing to read the statements of the scientific investigators on the subject. Robert Frank, for example, says that menorrhagia from endocrine disturbance may be due either to too much hormone or too little. The situation under these conditions is embarrassing because if there is too much hormone one can not take it out, and if there is too little, according to my experience

at least, the administration of ovarian extract has little effect. Therefore, in those cases we are in a difficult predicament. Medication as a rule does not help. Occasionally we are forced to resort to radium in small doses.

I may say that the use of radium in these younger women is not very satisfactory. One must be cautious in giving radium to the young on account of the inevitable injury which it does to the ovaries.

Just a word about the use of radium in cancer, one of the many interesting subjects that Dr. Peterson has brought out in his paper. I agree with him that the use of radium in cancer of the cervix is very disappointing. I also agree with him that operative treatment is equally disappointing. I realize of course that the technic of radium has not reached its peak. I believe also that the operation has not yet been completely developed. But I do not believe that cancer, certainly genital cancer in women, will ever be controlled either by radium or by operation. I believe that effective cancer-control requires something more systematic, more vital, than a local attack of the disease.

On a recent visit to Blair Bell's clinic I saw something of his work and was greatly impressed by it; I was impressed by his theory of cancer causation, and I was impressed by the evidence of clinical results that he has attained to support his theory. One feels as if he were more nearly on the right track with a remedy which makes a general systemic attack on the cancerous process.

DR. REUBEN PETERSON (Ann Arbor, Mich.): In closing the discussion I think my wisdom in passing over lightly the subject of endocrinology is shown by the fine discussion of the subject Dr. Graves has given. He is master of this, as with other departments of gynecology. I think the best description of endocrinology in gynecology can be found in Dr. Graves' book.

The reason we are not having many cases in our hospital is because these people with bleeding due to endocrine disturbances come to us in the outpatient department and unless they are bleeding very severely we cannot get them to enter the hospital. We are also using very carefully small amounts of radium on these patients where we can't ascertain the cause from a microscopic examination.

I think also that the examination of the blood is most important. We have had a number of cases where we have X-rayed the spleen with startling favorable results, but in our experience this is not permanent, the bleeding in these cases returning.

As regards what Dr. Graves says about cancer, I think we should welcome any efficient treatment. I also have been to Blair Bell's clinic and I have seen his cases demonstrated. I am not as enthusiastic perhaps as Dr. Graves.

I think that some of the results are hard to explain. We saw cases there of women and men who had cancer of the abdominal organs, verified by microscopic examination and yet these people were living five years after the treatment had been given. We must not forget, however, that rarely we see the same result under almost any treatment, cases we cannot explain. Keene has placed many of such cases on record, unexplainable cases, so if you are using the lead treatment in a large number of patients you must bear in mind this possible explanation. This is not detracting at all from Blair Bell's work which will be taken up, I think, all over the world and be tried out. The great trouble with the lead treatment is the fact that you have to have a very distinctive type of patient, because you must say to her, "This treatment we propose to give to you may kill you. As far as we can see, you are going to die from this disease. You may get well, as shown by Blair Bell, and others, but on the other hand the risk of this treatment is great." You have to have a certain type of patient before she and her friends will agree to the treatment.

I feel all this, however, is with the future. I am quite sure that Dr. Graves agrees with me that while we are not satisfied with the operative treatment of cancer, again we are not satisfied with the radium or X-ray treatment, but we must keep on with these agents until some other treatment has been found which will better our results. (Applause.)

CHAIRMAN BENNER: About three years ago the State Medical Society appointed a committee to study the recurrent toxemia of pregnancy. Dr. Foster Kellogg was made chairman of this committee and has his final report to give us this afternoon. Dr. Kellogg.

REPORT OF THE COMMITTEE OF THE OBSTETRICAL SECTION, MASSACHU- SETTS MEDICAL SOCIETY, APPOINT- ED FOR THE STUDY OF RECURRENT TOXEMIA OF PREGNANCY

BY FOSTER S. KELLOGG, M.D.

THREE years ago this section of the Massachusetts Medical Society, through its chairman, Dr. Mongan, appointed a committee to study the subject of Recurrent Toxemia of Pregnancy. No exact definition of this term was made at the time. This committee consisted of the following men—Doctors L. E. Phaneuf, C. J. Kickham, John E. Talbot, Edward R. Fleming, Richard S. Benner, Dennis M. Ryan and Foster S. Kellogg, Chairman, (Dr. C. E. Mongan, Dr. T. R. Goethals, ex-officio).

The committee met, drew up a study sheet, sent in its own "Toxemic-Chronic Nephritic Group" cases and appealed on several occasions

to the Society as a whole to send in cases to augment the material for study. No cases were sent in by the members of this section or the society at large in answer to these appeals. Hence it seems fair to conclude that the members of this section are not particularly interested in the subject or that this method of gathering material for study is of no value. Yet I expect to demonstrate in a moment that any work connected with toxemia of pregnancy should be of vital interest to each member of this section.

The material on which this very brief report is based then represents cases gathered by the members of the committee itself with a few additional series sent in as a result of a personal appeal by the chairman of the committee. The most notable contribution outside the committee members was from the Gynecological Service of the Boston City Hospital prepared and sent in by Dr. Frederick J. Lynch.

I mention this series of 50 cases separately because if the committee had received a similarly worked up series of whatever size from each hospital in the state enough material to make this study of value would have come to us; because it is a beautiful series of cases in itself and deserves further minute study by its author; and because it alone illustrates some points I wish to touch on later.

We have therefore four separate groups of material on which to base conclusions. (1) 200 cases by the committee and a few others. (2) 50 cases Dr. Lynch. (3) 407 cases from a closed index having for publication as yet only to do with the incidence of "Recurrent Toxemia" in the whole "Toxemic-Chronic Nephritic Group." (4) A small series from the earlier cases at the Boston Lying-in Hospital and from the private records of the chairman studied when he published two papers on the subject of recurrent toxemia some years ago. Total cases about 700. I am particularly indebted to Dr. Phaneuf for help in analyzing Group 1.

Concerning Recurrent Toxemia of Pregnancy there is little to be said definitely now. Its definition as we made it is: Recurrence in more than one pregnancy of some of the symptoms of toxemia of pregnancy in patients not definitely having chronic nephritis. Series (1) (3) (4) run close as to its incidence but do not yet establish it. If we take series (3) and index it we get the following results:

Acute Toxemia.....	70%
Chronic Nephritis.....	13%
Recurrent Toxemia Non-Nephritic.....	8%
Recurrent Toxemia Nephritic.....	4%
Toxemia on Nephritis.....	1.7%

This is a running index of four years duration with careful follow-up. It is immediately obvious that all primiparas not in the definite chronic nephritic group have not yet demonstrated whether or not they belong in the recur-

rent toxemia group. Therefore it is deducible that the Recurrent Toxemia Non-Nephritic percentage is about 12-14% where repeated pregnancies have occurred, since the Toxemic-Chronic Nephritic group is about 50-50 primipara and multipara. The percentage incidence of series (1) and (4) almost exactly correspond. We may conclude then for the present that about 15% of all women showing toxemic symptoms in one pregnancy will show them in another.

Nothing in this study has served to settle the moot question whether all so-called recurrent toxemias are ultimately chronic nephritics or not. The term "low reserve kidney" has been applied in relation to this group and Stand-er finds that in "low reserve kidney group" we need feel no alarm concerning subsequent pregnancies. He also graphs the low reserve kidney group against "Nephritic" and "Eclamptic" and shows the relatively low albumen, systolic and diastolic pressures. We should call these mild toxemias of pregnancy and they by no means cover all recurrent toxemias though some are included in it.

Our studies of recurrent toxemias under our definition have shown only that one has 25-50 times the chance of getting a live baby as in an established chronic nephritic, and that (barring the accident of premature detachment of the normally implanted placenta) we do not damage the mother providing we deliver on progressive toxemic symptoms prior to fits; and that recurrent toxemia of severity (B. P. 190, solid albumen) may occur not only in two but in more than two pregnancies and at autopsy (the result of total placental separation and "eclampsia") we may find no microscopic evidence of chronic nephritis. That many cases in the recurrent group turn out to be chronic nephritis is certain, that the term "low reserve kidney" covers some others is probable though just what the term "low reserve kidney" means in the kidney and why is not so easy to understand.

This is we think all that can be said of recurrent toxemia of pregnancy at this time.

We feel, however, that we should take this opportunity to present to the members of this society certain observations regarding Toxemia of Pregnancy With and Without Convulsions which appear to us as a result of this study. These observations are based on series (1) and series (2) of our sources of material. We shall deal here only with gross mortality.

In series (1) 200 cases—35 had convulsions. More multiparas had convulsions than primiparas actually and relatively. The rate was twice as high in multiparas. 23 women of 200 died and 60 babies died. The maternal mortality of the whole series was 11%. The maternal mortality of those that had convulsions was over 60%. The fetal mortality in the whole group at least 30%. *Further it is shown that practically no cases died who did not have convulsions, save a*

few having separated placentas and a few severe chronic nephritics with uremia.

Check against these results series (2) (Lynch B. C. H.) 50 cases—28 had convulsions—22 did not. One that did not died of uremia, a chronic nephritic. 22% of the whole series died but 40% of the patients who had convulsions died.

These cases were all handled in good hospitals by specialists in obstetrics and the result in 250 cases is a grouped maternal mortality in eclampsia of 50% and this is the disease which DeLee, Polak and other professors of obstetrics say is so nearly extinct through prenatal care that no material can be found for teaching.

It is our concluding thought that prenatal care does not stop eclampsia but prenatal care plus knowing what to do with it will stop it. We believe that Toxemias Without Convulsions are being carried too far in this state. We believe that the house is no place for a woman suffering from toxemia of pregnancy of whatever degree. It is not possible to treat toxemia successfully in the home with sufficient surety. Every case should be hospitalized. You cannot stop eclampsia supervening in the home. Toxemias cannot be saved in hospitals in respectable numbers if sent in after convulsions. These figures prove this. Eclamptics will die in the best hospitals and under the best specialist attention if sent in too late. Every woman with elevated pressure and albumen may have a convulsion. Only the well-equipped hospitals in each district with laboratories, with specialists in obstetrics are suitable for the care of Toxemia of Pregnancy. If a patient is sent to one of these before convulsions she is practically certain to go home well, if after, she stands a great chance of dying. That these eclamptic deaths are in great measure unnecessary deaths is true and they are a reflection on our state. But not only must prenatal care be utilized but the doctor in the field must realize that he is unfitted by training and totally hampered by his environment from properly treating a disease which is nearly preventable by the simple expedient of immediate unloading to a place prepared for its treatment, but which developed, carries with it an even chance of death even there. It is not criticism of the profession at large we have in mind, it is the fact that to properly handle a grave toxemia, or an eclamptic a specially prepared room, properly guarded, and the immediately available service of from three to six specially trained persons are necessities to do the best for the patient. And that in the light of present knowledge even our best is often not good enough.

It is strongly urged by the committee that each hospital in the state keep its toxemic records on one identical form and index its toxemic records under one identical index. The chairman of this committee will be glad to advise

with any hospital or individual interested in doing this.

(Applause.)

DR. C. E. MONGAN (Somerville): Mr. Chairman, I wish to discuss this excellent report. It was at my suggestion that the study of the recurrent toxemias be undertaken by the Section, with the hope that we might in some way reduce the maternal death rate of this disease in Massachusetts. I am not discouraged at the report that has been presented today. It shows much work on the part of the committee under the most unfavorable circumstances. I think from my observance and talk with members of the profession that it has had this effect: it has directed the attention of the profession to the death rate due to toxemias of pregnancy. It has lessened to some extent the death rate. I know that it has given to the patients better care on the part of the practitioner.

There is no subject more before the public today, except perhaps possibly the subject of cancer, as that of the death rate in maternal cases, and it would seem that our death rate in maternal cases is quite high in Massachusetts. I don't know the explanation. From my observation in hospitals, my observation of men in private practice, it would seem that they had taken the best possible care of women, but compared with other countries, so the statisticians say, our death rate is much higher. I have on various occasions taken issue with that statement and I do today, because there are many conditions existing in the United States which do not have their counterpart in foreign countries.

Moreover, I asked that this should be undertaken for the purpose of interesting the obstetrician and the general practitioner in Massachusetts in this death rate problem. I think that we have secured some information of a very valuable nature. More than that, I think we have bettered the obstetric technic at large in Massachusetts.

I also asked that this investigation be undertaken for another reason and that was for the purpose of interesting you in the Section. This large audience today justifies the existence of this Section. Four years ago there was no Section of Obstetrics and Gynecology. That this Section is of great interest to the physician is shown by the numbers that have attended today. We are going to ask you to continue your interest.

I am going to propose before this Section meeting is over that you take up another study. I am not at all discouraged with the study we had in the recurrent toxemia. I am going to ask you to take up the study of the incidence of death in puerperal septicemia in Massachusetts. Deaths from puerperal septicemia should not occur theoretically, but practically they do, and in large numbers. Every man and woman here

I take it is interested in this subject. I hope you will aid the committee by giving frankly and honestly your report if you are so unfortunate as to have a case of death from puerperal septicemia. It will be no reflection on you if you have a death; they occur everywhere, but if there is anything in the technic, if there is anything that you can contribute to us to enable the medical profession to reduce this death rate, then you will have justified yourself as a medical practitioner and a man who takes care of the parturient woman. It is serious. If you have love for the profession, if you are interested in your work and if you have any interest in the standing of the profession in the United States as compared with foreign countries, you will help us. With this large body that has been here today it would seem to be a very simple thing. All we will ask when we begin this study is that you state frankly and honestly the conditions under which the woman died. If you are so unfortunate as to have a death from puerperal septicemia I feel with the support you have given the committee as indicated in the report just read that you will help us so that we may stand with other states and with other countries for a lower death rate in puerperal septicemia. (Applause.)

Mr. Chairman: I move that the committee's report be accepted.

The motion was seconded and carried.

CHAIRMAN BENNER: The next paper is by Dr. Samuel R. Meaker of Boston on "The Newer Methods of Investigation and Treatment in Sterility."

MODERN METHODS IN THE INVESTIGATION AND TREATMENT OF STERILITY

BY SAMUEL R. MEAKER, M.D.

THERE is no diagnosis easier than the recognition of the fact of sterility. There are few more difficult than an accurate determination of the cause.

The past fourteen years have seen a growing interest in this subject, with consequent larger knowledge of the mechanism of fertility and of the numerous details in which that mechanism may fail. As a result, the investigator of sterility today finds himself confronted with a complex problem requiring for its solution an elaborate study, which must deal with the husband no less than with the wife, and must consider the general physical condition as well as the state of the reproductive organs.

PLAN OF COMPLETE STUDY

With the aim of giving this problem adequate investigation, my associates at the Evans Memorial and I have formulated a plan of sterility-

study comprising a basic routine which is carried out in all cases, and a number of supplementary tests which are done as indicated.

The details of the basic routine are as follows:

The gynaecologist obtains a history, makes the usual abdominopelvic examination, carries out a special study of the endocervical secretions, does at least two transuterine insufflations, and examines the cervical contents after intercourse.

The urologist takes a history, examines the male genitals, makes certain tests of the prostatic vesicular strippings, and studies a condom-specimen.

The internist makes a complete medical investigation of both husband and wife, with special attention to evidences of endocrinopathy.

In the laboratory both patients have a determination of basal metabolism, a complete urinalysis including nitrogen partition, a study of blood morphology, and the Wassermann test.

Finally all data are correlated by the group, and upon the conclusions reached are based recommendations for treatment.

POSTCOITAL EXAMINATION

Examination of the endocervical contents after intercourse is an indispensable step in the routine of sterility-study.

There are three possible results of such examination: the cervix may yield normal spermatozoa, damaged spermatozoa, or none.

If spermatozoa in every way normal are recovered from the cervix, then one may rule out male faults of production and transmission, faults of delivery and reception, and hostility of the endocervical secretions. By this single test the responsibility for sterility is located in the female supracervical genital tract.

When dead or damaged spermatozoa are found in the cervix, a condom-specimen must be studied. If it contains normal spermatozoa, the fault is with the endocervical secretions; male production and transmission as well as delivery and reception are normal. If, on the other hand, the condom-specimen shows defective spermatozoa, a male responsibility is obvious.

If after intercourse there are no spermatozoa in the cervix, again a condom-specimen must be observed. Normal condom-findings in such a case indicate a fault of delivery-reception. The absence of spermatozoa in the condom demonstrates a male fault of production or transmission.

The study of condom-specimens should always be critical. Unless the spermatozoa are entirely satisfactory on grounds of number, motility, and morphology, there is good reason to suspect the fertility of the male.

STUDY OF THE ENDOCERVICAL SECRETIONS

In order to determine whether the endocervical secretions are hostile to spermatozoa, and

if so in what way, they are subjected to three observations. Their viscosity is noted; a stained smear is examined for leucocytes and bacteria; and the chemical reaction of the secretions is determined.

The acid cervix has for years been regarded as a cause of sterility. I have in the past used a routine litmus test, and have occasionally found cervices of which it appeared that the secretions were acid. Recently, however, I have been making an accurate determination of the hydrogen-ion concentration. More than twenty cases have thus far been tested, and in all the pH value is strongly alkaline, averaging 8.7. A larger number of these observations will form the basis of a later report.

TRANSUTERINE INSUFFLATION

The routine method of determining tubal patency by transuterine insufflation of gas is now too well known to need description. There are certain recent refinements in the technique of this test which add considerably to its value.

I now do at least two insufflations in every case—the first after the patient has received a large dose of atropine, and the second some days later without preliminary medication. Moreover, a kymograph-tracing is made, as originally suggested by Rubin, to show the variations in gas-pressure which occur throughout each insufflation.

By this technique it is possible to demonstrate four kinds of tubes—normally patent, completely occluded, partially obstructed, and spasmodic.

In the normally patent cases the pressure-variations are the same at both insufflations. Neither the antispasmodic factor on the first occasion nor the factor of repetition on the second makes any difference in the behavior of the tubes. Both times the pressure rises to a moderate level, around 60 or 70 millimeters of mercury, drops as the uterine ends of the tubes open, and maintains itself around 40 millimeters as long as the gas continues to flow.

Cases completely occluded are likewise not influenced by antispasmodic medication or by repetition of the test. Both insufflations in such cases show a steady rise in pressure up to 200 millimeters, which is considered to be the limit of safety. The gas is then shut off, and the pressure remains at this level until a release-valve in the apparatus is opened.

Partial obstruction is evidenced by the production of a pneumoperitoneum on the second or a subsequent occasion more easily—that is, at a lower pressure—than on the first. The antispasmodic factor in the first insufflation is negligible, but the factor of repetition has sooner or later the mechanical effect of dilating the tubes, breaking up light adhesions, straightening kinks, or blowing out mucous plugs.

Spasm of the tubes is demonstrated by the

KYMOGRAPH RECORDS OF PRESSURE VARIATIONS DURING TRANSUTERINE INSUFFLATION,
SHOWING FOUR KINDS OF TUBES

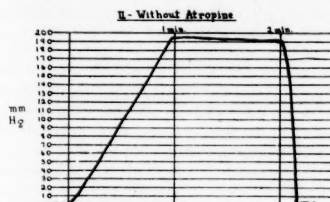
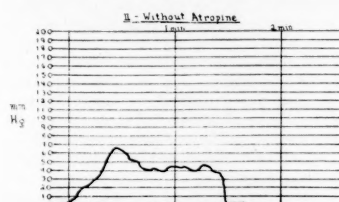
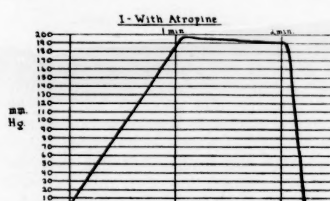
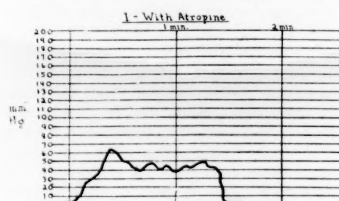


CHART A. Normal patency.

CHART B. Complete occlusion.

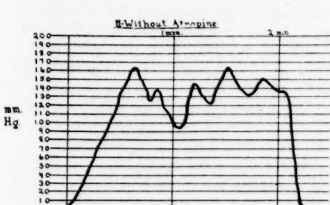
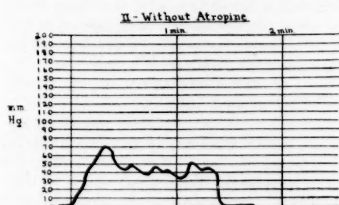
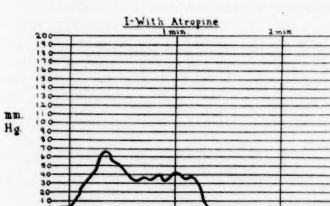
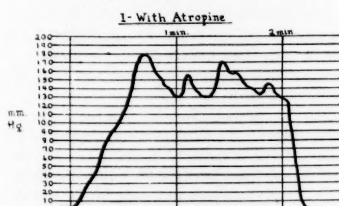


CHART C. Partial obstruction.

CHART D. Spasm.

production of pneumoperitoneum at a lower pressure when the patient has been moderately atropinized than when insufflation is done without such preliminary medication. The factor of repetition has no effect on the tubal behavior in such cases.

INJECTION OF LIPIODOL

When gas-insufflation has shown a defect of tubal patency, the location and extent of the trouble may be determined more accurately by lipiodol-injection and x-ray.

With this method it is possible to demonstrate whether both tubes are occluded, or only one, and whether the occlusion is due to a simple sealing of the fimbriated ends, or is the result of extensive tubal damage. Such questions are of great importance from the point of view of prognosis whenever an operation to restore patency is under consideration.

THE UTERINE INDEX

Hypoplasia of the female reproductive organs is an important factor in sterility. The extreme degree of underdevelopment, true infantilism, is rare, but a large number of women show juvenility, the persistence into adult life of pre-pubertal conditions.

In the past the recognition of these developmental arrests has depended upon the presence of certain anatomical stigmata such as a long, conical, anteflexed cervix and a small uterus.

It now appears that the ratio of the length of the supra-cervical uterus to the length of the cervix is a fair gauge of the differential development which the uterus, and with it presumably the ovaries, have undergone. In the infant the ratio of uterus to cervix is 1:2; in the normal adult woman it is 2:1; and the various degrees of incomplete development fall between these limits.

I have recently described a so-called uterine index, expressing in figures the degree to which development has progressed from complete infantilism to the adult normal. At present this index is being tabulated for three series of patients: (1) children and adolescents; (2) apparently normal adults; and (3) adults showing stigmata of hypoplasia. Certain members of the last group show infantile indices, even though their uteri are of full adult size.

ENDOCRINE STUDIES

The metabolic activity bears a definite relation to the fertility of the sex-cells. Its level may be lowered by extrinsic causes, notably faulty diet and deficient exercise, or by an intrinsic cause, underfunction on the part of any principal endocrine gland.

In a sterility problem it is, of course, highly important to detect any lowering of the metabolic activity, to distinguish the non-endocrine cases from the endocrine, and in the latter to

identify the primary focus of failure. By casual methods such differentiation of cases is impossible. For example, the same clinical picture of obesity, amenorrhoea, and sterility may be presented by women with deficient pituitary, thyroid, or ovarian function, and by those with a normal endocrine balance. Moreover, metabolic disturbance may exist without any very obvious external evidence.

An essential part, therefore, of every sterility-investigation is the careful study of both patients with these possibilities in mind. Special clinical observations are supplemented by metabolism-tests and other laboratory investigations. By such methods it is often possible to demonstrate a constitutional factor which, if unrecognized and untreated, would remain a barrier to conception.

MODERN TREATMENT

The treatment of sterility is always the treatment of the cause. We are now familiar with more than forty etiologic possibilities. The most important feature, therefore, of any therapeutic scheme is the preliminary study of cases with sufficient thoroughness to recognize all causative factors.

Progress in treatment has naturally resulted from more accurate knowledge of aetiology and better methods of investigation. I wish to speak briefly of certain therapeutic advances based partly or wholly upon recent ideas.

ARTIFICIAL INSEMINATION

Artificial insemination aroused great interest when it was first successfully done sixty years ago, but soon became discredited and fell into disuse.

With the increased modern knowledge of the mechanism of fertility, it is clear that such methods have a definite though strictly limited place in the therapeutics of sterility. They are rational only in cases in which there is a proved fault of delivery-reception or a hostility of the endocervical secretions, and are then indicated only when the pathologic condition is not amenable to direct treatment. They are absolutely contraindicated if there is a male fault of production, or any abnormality in the female supracervical genital tract.

The limitations of artificial insemination will perhaps be emphasized by the fact that I have had occasion to use it in only five cases out of some hundreds of sterilities studied in the past eight years. The value of the method, however, may be shown by the fact that, of these five women, two now have their babies and a third is pregnant.

THERAPEUTIC INSUFFLATION

From the earliest days of insufflation there have been occasional cases in which this proce-

dures, carried out primarily for diagnostic purposes, was promptly followed by pregnancy. Twelve such results have occurred in my own hands; the total number reported now runs into the hundreds.

Obviously, therefore, insufflation has some therapeutic value, which is without a doubt greatest in, and perhaps limited to, the cases of partially obstructed tubes. Since this condition is now easily distinguished, the indications for therapeutic insufflation are clear.

TREATMENT OF METABOLIC DISTURBANCE

In no class of sterility cases must the treatment be selected with greater discrimination than in those showing a lowered metabolic level.

If the trouble is non-endocrine, good results may be expected from dietetic and hygienic treatment. This includes a high-protein, high-vitamin, low-caloric diet; enough exercise to insure assimilation; and the relaxation of all nervous strain, such as the tension caused by overwork.

Cases of endocrine deficiency are best treated by the intensive administration of that single gland which is found to be the primary focus of failure. Pluriglandular therapy is less effective. Among sterile women with endocrinopathies the anterior lobe of the pituitary is at fault in sixty per cent. of cases, the thyroid in thirty, and the internally secreting portion of the ovary in ten.

For the comparatively few ovarian cases, the new follicular hormone appears to give much better results than have been obtained from any other preparations of the gland.

X-RAY TREATMENT OF OVARIES

A year ago Rubin reported twelve cases of sterility associated with amenorrhoea which were treated by small doses of x-rays. In eleven of these women the menses were restored, and nine became pregnant.

The significance of this report cannot be exaggerated. A single cure in a series of such unfavorable cases would be noteworthy, and seventy-five per cent. of cures demonstrate that a new method of unique therapeutic value has been discovered. The mechanism of these results is obscure, but the results speak for themselves.

We are now planning to try therapeutic radiation on functionally underactive testicles. If a similar effect is obtained, then another important factor in the causation of sterility, one at present very difficult to treat, will be brought to some extent under control.

SURGICAL TREATMENT

Innumerable operative methods have been devised for the relief of sterility in the female. Of these, three types have real value in properly selected cases: plastic reconstruction of the cervix to provide better drainage of the secretions; procedures to restore tubal patency; and conservative operations for pathologic ovarian conditions.

There is, in general, too much pelvic surgery done in sterility-cases. Operations for retro-displacement are rarely necessary, so far as sterility is concerned. Dilatation and curettage, the surgical procedure most often carried out, is the one least often indicated.

PREVENTION OF STERILITY

No discussion on the treatment of sterility can afford to omit some mention of the measures by which this condition may be prevented. Of such measures four are particularly important.

First, the most careful attention must be given to the hygiene of boys and girls at puberty, lest undue "forcing" and other errors at that critical period result in some sacrifice of complete genital development. In the second place, every effort is needed to combat and control venereal disease. Third, faulty sex-hygiene, sometimes called the great American sin, should be remedied by education. The fourth item of prevention is early investigation and treatment, for the chances of success in any case grow less with advancing years and waning fertility.

From such efforts to prevent sterility much more can be expected than from all our methods of cure. We have no right, however, to be satisfied with present achievements, as long as sterility continues to characterize ten per cent. of marriages, and remains therefore a problem of economic importance to the nation as well as a matter of supreme personal concern to more than two million families in the United States today.

CHAIRMAN BENNER: A few years ago if a patient consulted us for sterility, we always blamed the wife and not the husband. We usually advised her to go to the hospital to have a dilating and curettage. Dr. Meaker's interesting paper shows us how inappropriate such treatment is without having first these patients studied by a specialist; these patients with prolonged sterility should be studied by the men who make a specialty of this kind of work.

Is there any discussion on this paper?

DR. MONGAN: Mr. Chairman, I move that the Chairman-Elect be empowered to appoint a committee to study in the next year the incidence of maternal mortality in puerperal septicemia.

CHAIRMAN BENNER: You have heard the motion that the incoming chairman shall appoint a committee of seven to make a study of puerperal septicemia. Is that number correct?

DR. MONGAN: Yes.

The motion was seconded and carried.

CHAIRMAN BENNER: I think before we leave we should give a rising vote of thanks to our speakers of the afternoon who have all been extremely interesting.

A rising vote of thanks was given the speakers of the afternoon.

The meeting adjourned at five o'clock.

ORIGINAL ARTICLES

THE SURGEON; HIS SCIENCE AND HIS ART

BY RUDOLPH MATAS, M.D., F.A.C.S.

An Address at the Presentation of the Henry Jacob Bigelow Memorial Medal by the Boston Surgical Society on November 1, 1926.

(Continued from page 713)

VI.

Importance of the Laboratory of Animal Surgery for the Training of Surgical Specialists.

I cannot close this general discussion of the pre-clinical preparation of the student surgeon, without touching upon another phase of his training that the public does not fully understand, or appreciate,—that is, the importance of first practising upon the lower animals some of the most serious operations that he will be called upon to perform for his human patients. Operations performed upon animals for the sole purpose of educating young physicians to become efficient surgeons are now a necessary part of their training. This necessity has arisen out of the enormous increase in the indications for surgery and the complexity of the operations performed on the internal organs, especially of the abdomen, chest and brain, which were unknown, and inconceivable in the days of Bigelow, or even 25 years ago. By operating on the lower animals,—preferably, and for many reasons, the dog,—the student not only familiarizes himself with the technics of Surgery, but learns the reactions of the living tissues, the organs and the organism as a whole, to the effects of surgical operations. These reactions cannot be studied in the dead body, and only in living animal tissues. The practical experience obtained in this way is altogether different from that which is acquired from operating upon the cold, discolored, bloodless, rigid, lifeless tissues of the dead body. By operating upon the living tissues, the student learns how to suppress pain, control hemorrhage and prevent infection, and what is more, how to appraise the limits of safe operability, and how to perform operations that are compatible with life.

The course of operative surgery that we are considering aims at teaching the future surgeon how to operate with all the care and skill that is required to save the life of human patients. Such a course is conducted under the direct supervision of a competent instructor, and is undertaken only by advanced students who have previously reviewed the operative manual on the human cadaver. The student here aims to prove the correctness of his technics, and the success of the operation, by the survival and recovery of the animal. Like a

human patient, the dog must not suffer; he must be unconscious and be spared all pain; his blood must be spared; he must be warmed and protected from shock, as we do in the most methodically conducted operation in the best hospitals. After the operation, the animal is dressed, warmed, stimulated, nourished and nursed, with all the care and attention to guard against post-operative complications that occur in human patients, according to the character and gravity of the operation that the animal has undergone. No operations in the lower animals are performed, at least in my own experience, without a definite, clear, useful, humanitarian purpose; always to acquire knowledge that can be obtained in no other way. Aimless operating and experimenting, or the infliction of avoidable and unnecessary pain, is as abominable to the earnest, scientific investigator and the conscientious teacher of surgery, as the savagery that delights in the torture of beasts for sport, or indulges in wanton destruction of animal life for the mere pleasure of killing.

But I can scarcely restrain my patience with the, no doubt, well-meaning, but unreasonable sentimentalists, who reckon their humanity and their charity only as applied to the beast and not to their suffering fellow-creatures.

Nor can I fathom the logic of the minds that are perfectly satisfied with the wholesale destruction of vagrant dogs because they are superfluous; or of those who agree to the breeding and daily killing of vast herds of innocent domestic animals, solely for the purpose of nourishing the body, but who deny the right to sacrifice animal life for the sake of knowledge that nourishes the brain or the minds of those who strive solely for the welfare of man and beast¹¹.

The arguments of the anti-vivisectionists, who deny that animal experimentation has conferred benefits on humanity, are nowhere more flatly contradicted than here, in this great city where the epochal discoveries of Harvey Cushing, based upon his long, patient and difficult researches on the pituitary gland of the dog, have opened new paths in surgery, which have made it possible, the world over, to save thou-

¹¹ Dr. S. Weir Mitchell, when visiting an anti-vivisection exhibition in Philadelphia, some years ago, put the whole matter in a nutshell, when he said to one of the guides: "Your exhibition is not quite complete. You should place here a dead baby, and there a dead guinea-pig, with the motto: 'Choose between them'" (W. W. Keen, "The Influence of Anti-Vivisection on Character," *Bost. Med. and Surg. Jnl.*, CIXVI, Nos. 18-19, 1915).

sands of hitherto helpless and hopeless sufferers; who have been saved, not only from a life of misery, but from a fate far worse than death.

But as one deeply indebted to that noble animal, the dog, for much of the knowledge that has enabled him to be of service to his fellows in the course of a long surgical career, I deny most emphatically, as a teacher and an operator, that animal experimentation, conducted with all regard to the prevention of animal suffering, has any more deteriorating or demoralizing effect on the character and humanity of the Surgeon, than the practice of surgery itself.

VII.

Clinical Preparation. The supremacy of the Clinic over the Laboratories; of the Art over the Science of Surgery; the Hospital, the supreme Laboratory of the Medical Curriculum. The Surgeon must be an Expert Clinician before he can become an Expert Surgeon.

Thus far I have spoken only of the cultural studies in the fundamental sciences, and of the practical exercises in the laboratories wherein the prospective Surgeon acquires a knowledge and a skill which is to prepare his mind and his hand for the higher tasks that await him in the hospital clinic, in the ward and in the operating room. For it is in the hospital that he comes in contact with the patient, the supreme object of his study and of his laborious scientific preparation. Here he is dealing, not with the inanimate tissues of the dead, nor with the causes and effects of disease, as they are seen under the microscope, or in the chemical reactions of a test tube, but he is brought face to face with a conscious human being, a man like himself, suffering with all his human reactions—physical and psychical,—to pain and distress, who appeals to his superior knowledge for relief.

In the laboratory, the student has learned with his microscope how to distinguish between different strains of virulent and specific micro-organisms,—the staphylo- and streptococci, the colon bacillus, the tubercle bacillus, the gonococcus, the treponema of syphilis and other innumerable germs and specific tissue cells, such as the cancer cell,—but when he comes to the clinic or the ward, he will be lost and utterly incompetent to recognize or distinguish between the diseases caused by these germs, when he sees them at the bedside, though they may be clearly and unmistakably stamped upon the countenance or the body of the patients. It is in his ability to read the physiognomy of disease, to classify diseases, to recognize and identify morbid processes in their multiple disguises and protean phases; and, again, in appraising their effects on the human organism, as these are modified by the physical and psychical reactions that are peculiar to each and every indi-

vidual,—that the art of the Clinician, whether Physician or Surgeon, differs radically from the expert in the laboratory. It is on this common ground that the diagnostic arts of the physician and the surgeon converge. And it is to guard against the error of lifting the science of medicine, as we understand it today, to a higher pedestal, above its art, as applied to the sick and the injured, that the young and enthusiastic surgeon, fresh from the laboratories,—must school himself by long and patient study and observation at the bedside, how to control and coördinate the seemingly accurate but fallible data of the laboratory with the evidence that he gathers from the patient, by his educated senses and through the teachings of experience.

But apart from the general clinical and diagnostic training which the surgeon shares, in a large measure, with the physician, his hospital experience serves for other educational purposes which are more distinctive of surgery as they are applied to his craft.

The Tactus Eruditus

Prominent among these is the cultivation of the sense of touch, which has always been recognized as one of the characteristics of the Surgeon. Through the exquisite sensibility of the tactile organs, an epicritic sense is developed in the finger tips, which sensitizes and visualizes all the anatomical experiences that the Surgeon may have stored in his subconscious mind and reproduces the image of all that the hand touches, with an uncanny rapidity and vividness that is comparable only to modern teleo- or radio vision. This is the *tactus eruditus* which our forefathers justly exalted as one of their finest accomplishments and which in its attainment, and in the value of its interpretations depends almost entirely upon the degree of anatomical and professional culture that the Surgeon may possess.

It is a notable fact that in spite of the handicap of the rubber gloves which the commands of aseptic surgery have imposed upon the operator's hands, this *digital eye* at the tips of the fingers can see clearly through the veil and remains a priceless possession to the one who cultivates it.

It is true that since the Roentgen rays have rendered visible what to the naked eye is invisible, the *tactus eruditus* has lost much of its prestige as a diagnostic agency, and its cultivation has unfortunately declined. But it is wrong to depreciate this splendid surgical gift, for the educated sense of touch of the experienced surgeon asserts its supremacy as a guide to the hand and to the mind, in its most difficult diagnostic and operative enterprises. Infinitely more valuable to the Surgeon, when in action, than the X-rays, since it allows the surgeon to discriminate between the normal and the abnormal and to operate in the deepest, darkest,

and most dangerous cavities of the body, with a certainty and security that the most penetrating Roentgen light will fail to illuminate.

VIII.

Advances in the clinical training of Surgeons; the rehabilitation of patients; "Surgery has made the operation safe for the Patient, now the Patient must be made safe for the Operation."

The advances of Surgery have also modified the hospital training of the contemporary Surgeon in other ways. Apart from a greater ability to discriminate between what is surgical and what is medical, and to recognize the processes of disease at a much earlier stage than formerly, the Surgeon of today is learning how to distinguish with much greater prognostic nicety, between the fitness and unfitness of patients for surgical interventions; and what is more, to rehabilitate the unfit so that they may be made safe for the operation. It is in this direction that the Surgeon of today has advanced far beyond the limits of surgical relief that the experience of the past had imposed upon our immediate predecessors. The time has come when the prophylactic preparation of the patient for operation, to safeguard him against avoidable danger and accident, has become as important as the operation itself. The danger signals and means of detecting the contra-indications to operation have multiplied lately, since chemistry and physics have given us a code by which we can read the chemical formulas, derived from the blood and secretions, which point with barometric fidelity to the disturbances in the chemistry of the body that tell of actual or approaching toxic and pathologic storms, which would prove disastrous to the patient, if unheeded.

When to operate is now as important as *how* to operate. As Sir Berkeley Moynihan has aphoristically expressed the situation: "Modern aseptic surgery has made the operation safe for the patient. It is now the aim of surgery to make the patient safe for the operation." While the prevention of accidents and the rehabilitation of the surgically unfit, is the watchword of the day, the care and treatment of the patient *after* the operation, is no less a test of good surgical generalship. There is no finer example, or more profitable lesson for a young adept in surgery than to watch his experienced and conscientious chief extricate a patient from the untoward and tempestuous complications that so often follow critical operations, especially when there has been little or no time for adequate preparation.

IX.

The Operating Room. The Surgeon's Own Laboratory for Technical Research and for the Study of Pathology in the Living.

While the young Surgeon is learning to coordinate his theoretical and laboratory knowledge with his clinical experience, and improving his diagnostic and prognostic abilities at the bedside of the patient, he is also profiting by his assiduous attendance at the operating room, which is to be his future laboratory. There, even as an observer, he acquires a new knowledge which he never could have obtained from the normal tissues and organs of a dead human body, or those of a living, normal animal. In the course of the operations that he witnesses, as they are performed in the great cavities of the body, particularly the abdomen,—he sees with his own eyes the alterations caused by disease or injury, in the living tissues. He also sees the processes of disease *in the making*, while they are actually going on, while the battle between the aggressive causes of infection and of death are in conflict with Nature's own forces of defence. He sees this battle going on, not as a colorless, motionless and lifeless picture, but as a living, colorful, pulsating and moving reality. Again, he sees the interaction between different and distant organs, united in disorder, but in obedience to the same cause. In this school, the advanced student acquires a knowledge which Sir Berkeley Moynihan was the first to describe, as the "pathology of the living". It has proved a most fruitful source of knowledge; of benefit to the patient as well as to the Surgeon, which would never have been available but for the security that modern aseptic surgery has given to the operations performed upon the hidden organs of the body.

X.

The Importance of Team Work.—One of The Finest Characteristics of American Surgery.

Next to his attendance and observation in the operating room, the participation of the young surgeon in the teamwork of a well-organized operating staff, is most important in training him for rigid discipline, in quickening his perceptions and movements in concerted and harmonious action. He then cultivates dexterity as well as vigilance for timely service. This teamwork, we can say with just gratification, is one of the best and most distinctive characteristics of American surgery.

XI.

Assistantship.—The Turning Point in the Junior Surgeon's Career.

Last, but not least is long assistantship by the side of a competent surgeon, and if possible,

one recognized a master of the art. It is at this period of his career that the young adept first begins to feel a new sense of responsibility which increases as his Chief trusts him with many nice details of technic that may not be vital, but upon which much of the finished success of the operation will depend.

Daily contact with a skilful, experienced, all-round Surgeon, will now have a decided influence in shaping the young assistant's future career. The assistantship is usually the turning point of the road that he is to take. Whether to the right or to the left, he will be largely influenced, consciously or unconsciously, by the example and personal influence of the Chief to whom he may be attached, and whose habits he will probably acquire.

And no greater blessing can come to a young Surgeon, than to be taken under the wing of an honest and capable man. But perhaps no greater misfortune can come to him than to be inducted into his art by a careless, injudicious, or unscrupulous guide. Many a young man's future in surgery has been made by association with a good chief, but many futures have also been spoiled by attachment to an unworthy Mentor.

XII.

Benefit of Comparative Observation by Travel, —Another Distinctive Characteristic of American Surgery.

The only corrective is the peripatetic habit of frequent visiting to the clinics of different operators outside of his own. Nothing is worse than insularity and self-sufficiency in the Surgeon, especially in the formative years of his career. The Surgeon must be eclectic and open to knowledge from all sources. He should drink inspiration and knowledge not from one but from many springs, so that he may distinguish the purest, and the best. The benefit of comparative observation by travelling and visiting the master centres of Surgery at home and abroad is incalculable, and is one of the most distinctive characteristics of contemporary American surgery. It is in this universal, this ubiquitous, restless quest for knowledge and for self-improvement—that is displayed by the mass of our profession, sometimes to excess in its gregariousness, and in the multiplicity of its travelling organizations,—that accounts for the greater keenness, alertness, progressiveness, and critical spirit of the average American surgeon, as compared with those of other countries.

XIII.

The Mentality of the Surgeon; the Surgical Mind; Judgment.

Many of the educational and technical qualifications for the practice of Surgery may be ac-

quired by intelligent study and industrious cultivation, but no matter what knowledge the aspiring surgeon may acquire in the anatomical, physiological and pathological laboratories; by continued observation in the clinics, in the wards, or by the study of the best books and journals; by assisting his chief, or by frequenting the operating room of divers operators; all this is only a part of his education in the science and the art,—a knowledge which he may acquire to a high degree of proficiency and yet he may fail to display certain qualities of mind which can alone elevate him above the common level and make him a real Surgeon, and a credit to his profession.

To be a real Surgeon, a master craftsman, an artist if you will, something more is needed. "Something more than science, even more than experience, even more than pure love of the work and the will to pursue it". Something more is necessary, and that something lies in the specific qualities of the mind that are inherent and born with the individual and that fit the Surgeon for his vocation. It is the mysterious and illusive *ego*, that resides in the germ plasm, that is pre-natal, primordial and ancestral, that determines, *ab ovo*, in the Surgeon, as in the rest of mankind, what sort of a man he is to be. It is in the seed that we must look for those qualities which endow the individual with the attributes of intellect and of the character that constitute the *surgical mind* in its most typical manifestations, as we see them in the master surgeons. The surgical mind is a composite of the science and art of surgery in which all the qualities acquired by education and training are harmoniously blended with the congenital traits and instincts which are peculiar to the individual, and which, in their development, are enormously influenced by the character of his environment.

These germinal qualities, like all seed qualities, may be vastly improved by nurture and culture in a favorable soil, or they may deteriorate or degenerate, or even be dwarfed out of existence, in sterile soil.

When we speak of the *surgical mind*, we mean a mind that is especially adapted to surgical purposes and to surgical ends, just as we speak, in the same sense, of the legal mind, the religious, the philosophic, the mathematical, the artistic mind, etc.

The surgical mind manifests a special fitness to serve the functions of surgery in the artistry with which the Surgeon applies the scientific principles of his craft, in the clarity of his vision, and the breadth of his concepts, in the wisdom of his judgments, in his initiative, in his daring and resourcefulness; in the courage of his enterprises, in his high sense of duty, and his sensitiveness to his professional responsibilities; in his sleepless vigilance for the safety of

his patients, and in the adjustment of his physical qualities to his mental processes.

Salient among the qualities of the surgical mind is that highly-prized faculty that is known as *surgical judgment*. In general terms, when we speak of a judicious or wise surgeon, we mean one whose mind is well balanced, one who displays the capacity to weigh evidence quickly, and who gives a just valuation to the teachings of experience, as well as to the facts of science. Such a mind presupposes, not only special knowledge, culture and experience in the matters to be judged, but also a rare ability to look at controverted questions clearly, quickly, and dispassionately. Good judgment is based upon common sense, which every normal individual is supposed to possess, but which in reality is far from being a common possession.

When we realize that science is moving forward like a wheel in perpetual motion, and that medicine and surgery, in their progress, never stand still, we can readily understand that what was good judgment yesterday is poor judgment today, and what is good judgment today is poor judgment tomorrow. In proof, we see that a number of diseases and morbid states, such as diabetic gangrene and diabetic coma, acidosis and alkalosis and certain forms of anaemia, hemolytic jaundice, purpura hemorrhagica, Banti's disease, etc., which would have been judged

fatal only a few years ago, have now become tractable and curable by surgery and by newly discovered remedies and methods of medical treatment.

But apart from knowledge, experience and culture, which are the usual bases of judgment, there is much in this quality that individualizes it, and that accounts for the differences in the opinions and judgment of surgeons, of the same rank and experience, in deciding upon the operability or non-operability of patients, and yet between whom there is no dispute as to the diagnosis or nature of the disease. There is so much in surgical judgment that depends upon the estimate that one surgeon will place upon the results of his own experience, and so much that he puts in the estimate of his own capabilities—and, in a modest man, upon his own limitations. So much, too, that depends upon the temperament and the inclinations of a surgeon, whether of a radical or a conservative type of mind; so much that depends upon his character, and upon his sense of responsibility.

Intellectually independent and individualized as we recognize the surgical mind to be, it is none the less profoundly influenced in its judgments and its decisions, by a moral code which is inseparable from the honest surgeon's conduct and his practice.

(To be continued)

NEW ENGLAND HOSPITAL ASSOCIATION

Sixth Annual Meeting, May 5 and 6, 1927

(Continued from page 738)

Dr. Charles H. Young, Superintendent of the Maine General Hospital, Portland, Maine, then gave an address on

PAINTING BY THE USE OF THE SPRAYING UNIT

THERE are many makes of paint, and there are about as many opinions regarding the right kind to use and the proper way of applying it.

The first requisite in good painting is to secure the services of an intelligent man, one who knows how to mix paint, how to color it, how to put it on, and quite as important, how to properly prepare the surface so that the coating of paint will have its best chance to look well and to endure.

When you advertise for a painter you have more applicants for the job than apply for any other line of mechanical work, for many men lacking both mechanical skill and intelligence turn to painting as a good way with good pay of making a living. Their only equipment is a pair of white overalls, a brush, a can opener and a more or less flexible wrist. They look for labeled cans of colored paint, ready mixed, and regardless of the maker's instructions thin it down so it will be easy to work.

They are bewildered at the sight of a barrel of linseed oil, a keg of turpentine, a tub of white lead or zinc, a can of color and a piece of cheesecloth. Yet these articles have been for years the foundation of the major part of good painting in hospitals. The ready mixed paints, the lithopone paints, the cold water paints, have their special uses but many limitations. The good painter is the one who can take these basic ingredients, mix them in the right proportions, color them accurately, and apply them correctly, to a properly prepared surface. The best paint is that which looks well, washes well and wears well.

I have tried many kinds of lithopone paint and find none which looks well after washing. It usually requires more paint to cover than does lead and oil and requires more skill in its application.

It is not uncommon for a painter to insist that one brand is superior to all others and to be able to demonstrate this on your walls. Sometimes you wonder why that painter urges you to buy of that particular dealer who carries this special brand. The purchase of lead and oil in bulk takes little time and trouble

for the superintendent or purchasing agent. There are comparatively few brands; these are standardized and the prices more or less fixed by market quotations.

Ready mixed paints are made by innumerable firms and their pestiferous salesmen are legion. In my own city of 80,000 there are forty-five firms selling paint, each one maintaining that his brand is superior to all others.

So much for the general subject of paint, painting and painters as the situation has been up to recent years.

A few years ago there appeared a new covering, its use at first confined to the automobile, Duco, a lacquer now made by many firms under various names. It was described to us as a nitrocellulose product superior to the enamel formerly used, more lasting, less easily scratched, more easily cleaned, attacked by fewer chemicals, and more resistant to atmospheric changes. The product developed rapidly; its use extended to furniture and fixtures and recently we began to hear of its use for interior walls, ceilings and trim.

If you bought some for trial, your painter probably told you the stuff was no good, impossible to put on evenly, subject to overlappings and runs; it just couldn't be used. Then you visited a friend and his wife showed you the furniture she had done over with lacquer; a perfect job. Analyzing the situation you found no secret involved in its application, she had just followed the simple directions on the can. Back at the hospital you had difficulty convincing the painter that he should begin at the bottom and brush up, the reverse of the way he had been taught to paint, and that he must not add any ingredient except the thinner made for the purpose.

But it does seem a practically impossible task to apply lacquer on walls by the brush method. It can be done with two men working in unison but it is such a painstaking process that it does not pay.

Two years ago we had a great deal of painting to do. Lacquer lasted so long without apparent deterioration on the auto that it seemed of great promise under the protected conditions of building interiors. The pressure spray gun seemed the only method of applying it. We had seen it used and were impressed with it. There was no painter in our vicinity who had used or wanted to use the machine. The auto and furniture workers were not experienced in wall painting and were getting much higher wages than the hospital could pay. Our head painter, an unusually good man, expressed a willingness to learn and we purchased a machine. He soon became adept in its use. We found the low pressure gun, as distinguished from the high pressure as used on furniture and automobiles, to be the proper one for wall use.

The apparatus consists of an air compressor with electric motor mounted on wheels, and a pressure tank with hose attached. The important part is the little gun, shaped like a pistol, with two triggers, one for air, the other for paint. The important thing about the gun is the nozzle giving form to the spray. A different nozzle can be attached for narrow work. The paint container can be used as it is, but in small jobs we put a gallon, or quart, or pint can, inside this with the pipe running into it.

Success in using the machine depends upon four things.

1st: Proper consistency of the paint:

ie: Lacquer—about three parts lacquer and two parts thinner.

Oil paints—add about 50% more thinner than is used for brush work.

Cold water paints—a little thinner than ordinarily used.

We have been unsuccessful with lithopone paints; have tried it only on one occasion with resulting runs and streaks. We believe these can be sprayed on by experimenting for proper consistency.

2nd: The right pressure: We found forty pounds about right for all types of painting.

3rd: Holding nozzle at right distance from wall, ie., about eight inches.

4th: Holding nozzle at right angle: ie. So paint will be sprayed on in lines at right angles to surface.

Long sweeping strokes should be used, evenly timed. The edges of the spray will be thinner than the center thus allowing for overlapping. We are often asked how many coats. We do the whole job at one sitting. When the first coat dries, as it does in about a half hour, we go over it again, and where streaks show, a third time. In other words we put it on just thick enough to leave an evenly distributed coat of whatever thickness is necessary to cover.

It goes on over any kind of old paint but must not be used over paint that is less than six months old. It can be used over shellac or sizing and it is sometimes advisable to use one of these in preparing the walls. Ordinarily walls need little preparation as lacquer covers well over stains and dirt. It cannot be used over varnish or enamel, and will burn off radiators and steam pipes. Soil pipes which have been painted with asphalt base, discolor as they do with most any kind of paint. It will cover well on new wood without undercoating and covers evenly over metal fixtures, hooks, etc. The finish is dull unless polished. Polishing can be accomplished with considerable labor.

How long will it last? I do not know! My oldest job is two years and has had two washings. It is apparently the same as when applied. On furniture and apparatus where there is a good deal of abrasion, lacquer is not last-

ing as well as does enamel. Metal beds sprayed with it two years ago seem still in good condition, but metal table tops have not held it. We have used it on wood and linoleum floors with little success. It seems especially well adapted to ceiling work over plaster, and covers well on brick and stone.

The vapor is at first rather unpleasant causing a choking sensation but one rapidly becomes used to it.

We have had good results using the spray for lead and oil,—even coating with no brush marks and no overlapping. The painters object to using it without masks and these are furnished. It is advisable to open windows and in some instances to force ventilation with the use of the electric fan blowing outward.

Cold water paints are very quickly applied and long pipes with a simple nozzle at the end may be used instead of the regular spray gun. With this, one can get around steam and water pipes and in difficult places inaccessible with the brush.

We sprayed about 600 square feet of stone foundation wall with cement paint, giving a smooth even coat which reached all crevices and holes. This job was one day's work for two men. We find one painter with a helper at the machine will spray walls and ceilings at the rate of from 600 to 1200 square feet in a working day of eight hours, depending upon how much woodwork he has to protect. Protection of windows and door frames is accomplished with strips of paper and by use of a shield of sheet iron held on the line. There is a preparation made to smear on the wood but this is expensive.

We do not find it practical to use the spray in small rooms requiring much protection of wood and trim but we use it for all ceilings.

We have no exact figures on cost. More paint is used than by the brush method. Lacquer with its thinner costs about 30 to 40% more than lead and oil. Two men working with lacquer will complete a job in less than one third of the time they would take in using oil paints by the brush method. Spraying with lead and oil, they will do the same work in at least one half the time. It seems best in most cases to spray twice with oil paints rather than to put it on too thick at the first application. Two applications with time to dry between, covers fully as well as three coats by the brush method and uses a little more paint.

I hinted at the difficulty of getting a man intelligent enough to use a machine. In some States the legislature has attempted to pass legislation forbidding its use. With us a man who had become quite proficient in its use dropped dead in the corridor some time ago. The assistant, whom he had trained to use the machine, was frightened, and practically refused to use it. He does use it on furniture

and small jobs, but he doesn't like to go into a confined room and use it. This man who dropped dead, we found had arterio-sclerosis and was a heavy drinker, which we thought fully accounted for his sudden death. At the present time we have finished all big jobs, and are using it on ceilings and furniture. We are looking for a painter who will continue to use it a little more than it is being used now.

THE CHAIR: Mr. Weber (Grace Hospital, New Haven), will you open the discussion?

MR. WEBER: Dr. Young has covered the subject so thoroughly that there is little for me to say, except to give my personal experience in connection with the spraying machine. My interest in the subject was first aroused by a paper that Dr. Young read at a meeting of the American Hospital Association at Atlantic City, in conjunction with the fact that I was facing a very extensive and serious painting problem at Grace Hospital (the painting at that institution having been neglected for six or eight years). We were doing hand brushing, with two painters, and the process seemed relatively slow; so we were glad to have our attention called to an instrument that would speed up the process and do it successfully. I did not take the trouble to look into the relative merits of various machines; I relied on the pioneer work Dr. Young had done and accepted his recommendation, and I am very happy that I did. We purchased our machine in the latter part of January of this year at a cost of approximately \$350, and as a matter of expediency rather than of necessity, we also purchased an additional gun, so that we should be ready to meet any emergency that might arise. That cost an additional \$35, so the total cost was approximately \$385. We were working with two painters prior to that and were making rather slow progress. Since then the progress has been probably doubled, if not trebled. We were very fortunate in the two painters we had when the machine arrived, because the head painter had had previous experience in using the machine when working for a truck manufacturing concern which sprayed their trucks with a spraying machine of a different type. In fact, he had mentioned the subject to me before I contemplated purchasing a machine; so I was receptive to the idea. He had also had considerable experience in re-decorating furniture in a large furniture house; and he knew all about paints and the mixing of paints. All in all, the combination was a happy one to start off this work. The other painter was a less capable man, but he turned out to be the better man to handle this machine. Apparently, the less a painter has to unlearn the better. Of the two he has made the better painter, and now he uses the machine almost exclusively. Dr. Young expressed the idea that it was necessary to have two persons to run the machine, one

to move the machine about and see that it was working properly, and the other to do the spraying. Our experience is that we can get along without the second man. It may take the painter a little longer to complete a given job; but we find he can handle the machine and adjust it quite by himself very successfully. We feel that we have accomplished a great deal with this painting machine in the three months we have had it, and the rate of progress has been very satisfactory and gratifying. When we got the machine I consulted the manager of an office building in the city, and he told me the paint he had used in this office building successfully for three years. We bought some of that paint and tried it on the machine, and found that it was altogether satisfactory; and we have been using it on all our walls, with the exception of the tunnel walls and ceilings, on which we have been using cold water paint. We thought of repainting at quite frequent intervals. Dr. Young told you to cover door frames and window frames with strips of paper. He told me that some firms used a combination of honey and glycerine, which can easily be wiped off. We found an entirely satisfactory way was to cover the frames with cheap muslin, using thumb tacks to hold it on. Then when the painting is over, you can take it off, and the window frames and doors are all clean and ready to paint by hand, if you choose to paint them that way. The experience we have had of having clean rooms is practically that of Dr. Young. We use drop cloths on the floors, and we find there is very little after-cleaning. The spray dries and falls down to the floor sometimes, and occasionally we have to sweep it up; we may have to use a little paint-remover around the edges.

We had some difficulty in getting our painters to use the masks we provided at first, but I have noticed latterly that, after more or less pressure on my part, they use them all the time. They found at first that the spray gathered around the edge of the mask, and they thought they were breathing some of that; now they have got over that notion altogether. We found we could do satisfactory and rapid work by painting two rooms at a time with two painters. That was especially true in the old building, where the walls required preparation. We have one man go into a room and prepare it, and while the second man is spraying that room, the man who has been in the first room goes back to the second room and does the finishing off by hand. Finally, as illustrating how the painter in a given room works, let me cite this instance: We are preparing now for a new pharmacy what used to be the cystoscopy room; we moved that apparatus up to the operating floor, and now use this as a new pharmacy. It is 21x25 feet; the walls are of terra cotta. Day before yesterday we had the painter go in with the machine, and he covered the en-

tire surface of that room in five and a half hours; he used about ten gallons of paint. It takes about three-quarters of an hour to mix the paint and put in the necessary thinning, and he consumed about an hour and a half in straining ten gallons of paint. The second coat was applied yesterday, in about five hours. All in all, we are very much delighted to have this machine.

A MEMBER: What type of paint do you use?
ANSWER: A lithopone paint.

MR. MAYS: I understood Dr. Young to say that he wouldn't recommend spraying small rooms; I should like to get some idea as to the size of room he would eliminate. Would you take a room of the average size in a nurses' home, or a bedroom of the average size in a hospital?

DR. RICHARDSON: I should like to ask, when walls and ceilings are very dirty, what about washing them?

A MEMBER: How about a two-color scheme?

A MEMBER: I think the time goes into cleaning up; it takes half the time required in painting; at least it does in an old building.

A MEMBER: We started things in a very modest way, and so far have given more attention to furniture than to our flat surface. We found that one of the expensive features was in the removal of the numerous coats of enamel; paint-removers were expensive, and we set about to get what knowledge we could of a less expensive paint-remover, which we have done. I don't know how successfully it is going to work out. We made a vat, as it were, six feet wide and twelve feet long, with a partition in the centre; and in one of the compartments we are using this paint-remover which we made ourselves, and in the other compartment we have running hot and cold water. We drop our pieces into this paint-remover and let them remain as long as necessary, and then drop them into warm water; then pick them out and rub them over with burlap, very rapidly. This saves a great deal of time in the removal of old enamel. We manufacture this remover for about eight cents a gallon, whereas the patent paint-removers cost \$2.50 a gallon. This paint-remover is in an experimental stage; but it seems to have worked, and there is a great difference between eight cents a gallon and \$2.50 a gallon.

DR. HERSEY: How long can you use the same solution?

ANSWER: Until it begins to fail in its efficiency. Then we build it back up to its required strength. It is a combination of potash, benzol, and some other ingredient which I don't remember. It is very simple and very inexpensive. We are going on in the hope that the lacquers will hold as well on metal furniture as on automobiles.

THE CHAIR: Dr. Young, will you close the discussion.

DR. YOUNG: When I spoke of lacquer not standing over enamel, I referred to enamel on wood and trims. We find it is good over enamel on an old base.

The size of a room is not important; it depends on the number of doors and windows in a room. In a small room with two or three windows and several doors taking up considerable space, I usually reckon that it is about as easy to use a brush as to use the machine. If we paint a small room by hand, we always do the ceilings with a machine.

It is perfectly easy to draw a line above the dado and paint with two different colors; by using a metal shield, and by putting whatever size can you want inside the container; then you can take it out and clean the machine with a solvent, and put in another color.

A MEMBER: Suppose the ceiling was one color and the walls another?

DR. YOUNG: That is quite easy to do. I paint all my ceilings either gray or cream or something like the walls; I never paint a ceiling white.

As to dust and stain, I might cite as an ex-

ample our kitchen, which is 50 feet long and 30 feet wide. The ceiling of that kitchen was white; it was very dirty, and covered with grease and soot. We went over it with steel brushes; we didn't wash it. If we had used the ordinary paint with a brush, the first coat at least would have dissolved and mixed with it; it could not have been properly done with less than four coats. With paint and lacquer it worked perfectly. There is a preparation that removes smear from woodwork, but it costs as much as paint.

A telegram as follows was received and read:

"Chicago, Illinois, May 5, 1927.

"Dr. Leslie Wright, Secretary New England Hospital Association, in session at Medical Library:

"American Hospital Association Officers and Trustees extend their best wishes, and hope your meeting is successful from every standpoint. Cordial invitation is extended to those who are members of the American Hospital Association and those who are not to attend our twenty-ninth annual convention at Minneapolis October tenth.

(Signed)

"DR. WM. H. WALSH, Executive Secretary."

(To be continued)

NEW HAMPSHIRE MEDICAL SOCIETY

The One Hundred and Thirty-Sixth Annual Meeting

HOUSE OF DELEGATES

NEW CASTLE, N. H., JUNE 22, 1927

(Continued from issue of October 6, page 580)

The Meeting was called to order by the Speaker, Joseph J. Cobb, at 8:30 a. m.

On roll-call, a quorum was declared present.

The minutes of the previous meeting were read and approved.

Dr. F. E. Clow moved:

That a committee be appointed to investigate and report at the next annual meeting as to the feasibility of holding at Durham, in the University Buildings, at a proper time before the beginning of the college year a clinical meeting of the State Society, such meeting to be composed of those who shall pay in advance a fee not to exceed twenty dollars, said meeting to last two or three days, with evening sessions if desired; speakers to consist of young teachers and consultants, specialists, etc., and that twenty dollars be appropriated for the committee's use for printing and postage.

Referred to the Committee on Communications and Memorials.

SECRETARY: Inasmuch as this committee has several matters referred to it, and some of them are of great importance, I move that a special

Committee of Three be appointed and the vote of reference be reconsidered.

Motion seconded and carried.

Communication from American Medical Association in regard to teaching of medical ethics.

"The Council on Medical Education and Hospitals of the American Medical Association recommends that adequate instruction in the traditions and principles of medical ethics be included in the required curriculum of all medical students. While realizing that the subject is now touched upon in all schools and that its principles can be inculcated by example, yet the Council believes that detailed and sympathetic explanation of the 'Principles of Medical Ethics,' as formulated by the American Medical Association, should be the minimum of the formal instruction given in medical schools.

"The Council suggests that the subjects of medical economics, medical jurisprudence, medical history, and perhaps also, in some instances, pastoral medicine might be conveniently grouped with that of medical ethics, under the general title of the 'Social Relations of the Physician.'

"The Council recommends also to the American medical profession through its national, state and local organizations that it seek to adequately familiarize its members with the same material suggested for medical students."

A communication from N. P. Colwell, Secretary of the Council on Medical Education and Hospitals, Chicago:

Dr. D. E. Sullivan, Secretary,
N. H. Medical Society,
7 North State Street,
Concord, N. H.

Dear Dr. Sullivan:

We are endeavoring to correct our list of the state committees on medical education. Will you kindly send us the names of the chairman and other members of the committee in New Hampshire.

Kindly let us know whether there are any live problems in your state at this time in connection with either medical education or medical licensure. Thanking you, I am

Yours very truly,

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS,
Per N. O. Colwell, Sec'y.

Referred to Committee on Communications and Memorials.

Dr. T. W. Luce presented the following resolution:

"Resolution on the Defense Against Suits for Malpractice Proposed to the House of Delegates of the N. H. Medical Society"

"Whereas law suits for malpractice against New Hampshire physicians seem to come with ever-increasing frequency and to such a degree that New Hampshire as a state is being discriminated against by some of the insurance companies, making the cost of liability insurance greater for New Hampshire physicians than for some of the other New England states, and

"Whereas the temporary organizations of the New England Medical Council recommended the adoption of the so-called 'Maine Plan of Medical Defense' by the other New England State Medical Societies, therefore be it

"Resolved that the House of Delegates of the New Hampshire Medical Society approves of the Maine Medical Association's act for medical defense and also the rules governing the members with reference to this act, and recommends its adoption by this society."

The resolution with accompanying documents presented by Dr. Luce was referred to the Committee on Group Liability Insurance.

It was voted that a Committee of three be appointed by the Speaker.

SPEAKER: I wish to say that this is legally the first day of the Annual Meeting and the By-Laws say that the Committee on nominations shall be appointed on the first day. I appoint the same committee named last evening as Committee on Nominations:

H. O. Smith, Hillsborough County.
T. W. Luce, Rockingham County.
Burton D. Thorpe, Sullivan County.
R. W. Robinson, Belknap County.
O. H. Hubbard, Cheshire County.

A representative of a Liability Insurance Company explained in detail and at some length many of the points involved in such insurance, and it was voted that he be given an opportunity to appear before the Committee and that

they consider his written argument when considering the case.

On motion it was voted that the Committee on Group Liability Insurance take this matter under consideration and report back to the House of Delegates the following day.

Members of Committee: J. F. Gile, T. F. Rock, H. J. Connor.

SECRETARY: I move that the proportionate share of the expenditures necessary for our delegates to the New England Medical Council shall be paid by this society.

Discussion. Motion seconded and carried.

A communication from the Executive Secretary, Bureau of Legal Medicine and Legislation, relative to the promulgation of regulations under the National Prohibition Act and the Harrison Narcotic Act.

American Medical Association
Bureau of Legal Medicine and Legislation
535 North Dearborn Street
Chicago

NEEDED SAFEGUARDS IN THE PROMULGATION OF REGULATIONS UNDER THE NATIONAL PROHIBITION ACT AND THE HARRISON NARCOTIC ACT

The imposition of duties and prohibitions on the people through regulations promulgated by department heads, bureau chiefs and administrative boards acting under authority of Congress, and not directly by acts of Congress, seems to be a necessary outcome of the magnitude and complexity of our Government. There is no reason, however, why the formulation and promulgation of such regulations should not be as public as are the deliberations of Congress in the course of the enactment of a statute, nor why such regulations as are promulgated should not be published as widely and made as accessible as are such statutes as are enacted. In fact, publicity, publication, and accessibility are essential to intelligent co-operation between the department head, bureau chief, or board promulgating a regulation and interested members of the community who must live under it, and are necessary to due execution and proper compliance.

Because of the absence of any statutory requirements as to the procedures to be followed with respect to these matters, the practices of various department heads, bureau chiefs, and boards varies, and the practice of a single department head, bureau chief, or board may vary from time to time. It seems desirable, therefore, that the entire situation be regulated by law, so as to promote uniformity and to hinder arbitrary and unwise action.

The same principles should doubtless apply to all regulations having the force and effect of law. Organized medicine, however, can hardly concern itself with such a broad field, but must properly limit its interests to the fields of particular interest to the medical profession, namely, the fields covered by the National Prohibition Act and the Harrison Narcotic Act. With a view to the proper control of the promulgation of regulations under the acts named and under similar acts, the following principles are suggested, for enactment into law:

1. Adequate public notice shall be given, and opportunity afforded interested parties to be heard, by brief or orally, before any regulation is promulgated;

2. Any regulation promulgated shall be officially published so as to inform the interested public of that fact;

3. A reasonable time shall be allowed after the promulgation of any regulation before it becomes effective;

4. Authentic copies of all regulations shall be available at all times to persons requesting them;

5. All regulations promulgated shall be officially reported to Congress annually and be published in authentic form in the Statutes at Large or in some other proper, generally available form;

6. When Congress first convenes after the enactment of the proposed law all regulations in force shall be officially reported to Congress and shall be published in authentic form in the Statutes at Large in some proper and convenient form, so as to bring publication up to date.

7. To meet emergencies, the President may waive the time limits and proceedings normally required for the promulgation of regulations, so as to permit the promulgation immediately of regulations necessary to meet the situation, such regulations to remain in force until regulations can be promulgated in due course.

I shall be glad to have any suggestions you are willing to offer with respect to this matter. If such legislation as is suggested above meets your approval, please let me know, so that the way can be better paved for its introduction when Congress convenes in December next.

WM. C. WOODWARD, *Executive Secretary*,
Bureau of Legal Medicine and Legislation.

4/6/27

A communication from the Editor of the BOSTON MEDICAL AND SURGICAL JOURNAL.

March 31, 1927.

Dr. D. E. Sullivan,
7 No. State St.,
Concord, N. H.

Dear Dr. Sullivan:

The Committee in charge of the BOSTON MEDICAL AND SURGICAL JOURNAL has been authorized to enter into arrangements with the several State Medical Societies of New England for the publication of such material as may be furnished by any given state society not to exceed sixteen pages in any one month; such material to be incorporated in one issue per month, copies of which will be sent to the members of a Society entering upon this agreement.

The BOSTON MEDICAL AND SURGICAL JOURNAL will render this service for one dollar for the twelve copies sent to each member designated by the state society and an additional charge for postage.

For example:

If a society sends in subscriptions for six hundred members the cost to that society would be for the total number of copies furnished

\$600.00
Mailing @ \$2.00 per hundred per issue, \$12 for the twelve issues =
144.00
744.00

The mailing expense may be less. The charge will be the actual cost.

To such members as may want to subscribe for the fifty-two copies or one year's subscription, an additional charge of three dollars will be made provided that seventy-five or more members of any one society so subscribe.

These charges are based on a study of the actual

cost to the Society and are practically, so far as we can estimate, about the net cost.

All matters which are of interest will be discussed and explained if this general plan seems to be attractive.

Formerly the Massachusetts Medical Society bought and distributed copies of each year's issues to its members at a price larger than that suggested above.

Since assuming ownership of the JOURNAL the Society has enlarged it, giving more than twenty-five per cent more reading matter, and has included the so-called Cabot Case Records which formerly sold for eight dollars per year. It is planned to change the name of the JOURNAL next year to that of the New England Journal of Medicine.

Coöperating societies are to be given representation on the managing boards.

We will be pleased to hear from you.

Very truly yours,

WALTER P. BOWERS, M.D., *Managing Editor*.

Referred to the Committee on Memorials and Communications.

Dear Dr. Sullivan:

The Senate Committee on Finance, on June 9, reported H. R. 12175, An Act to amend the World War Veterans' Act, 1924. The bill as submitted to the Committee contained amendments to the World War Veterans' Act, 1924, inserted by the House of Representatives, authorizing *outpatient* treatment (hospitalization is already authorized) at Government expense, regardless of the nature or origin of disability, to all veterans, and authorizing both outpatient treatment and hospitalization, regardless of the nature or origin of disability, for those women who served as army nurses under contracts between April 1, 1898, and February 2, 1901, and for contract surgeons and for contract dentists. The Senate Committee recommended that the amendment extending free outpatient treatment to veterans be stricken out and that the amendment authorizing hospitalization and outpatient treatment for contract surgeons and contract dentists be omitted. The Committee leaves in the bill the provision for extending hospitalization to the nurses named.

Although the recommendations of the Committee do not go as far as the American Medical Association asked, yet they do tend to arrest the extension of free medical treatment at Government expense, regardless of the nature or origin of disability. It seems opportune, therefore, to telegraph and write your senators and representatives again urging opposition to any extension whatsoever of such Government gratuities. Such letters and telegrams will help to hold the ground conceded by the Senate Committee on Finance in its report, even if it does not do more.

Yours truly,

WM. C. WOODWARD, *Executive Secretary*,
Bureau of Legal Medicine and Legislation.

Dr. Sullivan read the amendments to our charter by the legislature of 1927 and submitted the official copy.

STATE OF NEW HAMPSHIRE
Office of Secretary of State

I, HOBART PILLSBURY, Secretary of State of the State of New Hampshire, do hereby certify that the following and hereto attached is a copy of an act entitled

An Act amending the charter of the
New Hampshire Medical Society

(Approved March 17), as engrossed in this office and in my custody as Secretary of State.

[SEAL]

In Witness Whereof, I hereto set my hand and cause to be affixed the Seal of the State, at Concord, this seventeenth day of March, A. D., 1927.

HOBART PILLSBURY,
Secretary of State.

STATE OF NEW HAMPSHIRE

In the year of our Lord one thousand nine hundred and twenty-seven.

An Act amending the charter of the New Hampshire Medical Society.

Be it enacted by the Senate and House of Representatives in General Court convened:

1. Number of Members. Amend that portion of the charter of the New Hampshire Medical Society, incorporated in 1791, as amended by the Laws of 1816 and chapter 171 of the Laws of 1885, relating to the number of members of said society, by striking out the words "five hundred" and inserting in place thereof the words, "an unlimited number of," so that said portion of the charter as amended shall read as follows: That the New Hampshire Medical Society shall hereafter be authorized and empowered to admit and receive into their society an unlimited number of members.

2. Takes Effect. This act shall take effect upon its passage.

HAROLD K. DAVISON,
Speaker of the House of Representatives.

FRANK P. TILTON,
President of the Senate.

Approved March 17th, 1927.

HUNTLEY N. SPAULDING,
Governor.

SPEAKER: You have heard the report of the Secretary concerning the charter. What action will you take?

Moved and seconded that the amendment of the charter as read by the Secretary be accepted. Carried.

REPORT OF THE TRUSTEES

The Trustees submit the following report for the year ending June 5, 1927.

The Bartlett Fund

Deposit in the Portsmouth Savings Bank, Book No. B-21110, April 1, 1927..... \$4,193.23

The original fund, \$352.11, by the terms of the bequest is kept as a permanent fund.

The Pray Fund

Deposit in the Strafford Savings Bank, Dover, N. H., No. A-42, January 1, 1927..... 1,173.62

\$1,000 must be kept as a permanent fund, the income of which is to be expended for prize essays.

The Burnham Fund

Deposit in the New Hampshire Savings Bank, No. 80106, January 1, 1927..... 1,449.23

\$1,140 must be kept as a permanent fund and income expended for prize essays.

General Fund

Deposit in the Merrimack River Savings Bank, Manchester, N. H., Book No. 26934, June 13, 1927..... 1,565.81

Deposit in the Portsmouth Trust & Guarantee Co., Book No. 12813, May 1, 1927..... 151.53

Deposit in the New Hampshire Savings Bank, Concord, Book No. 35696, January 4, 1927..... 1,992.62

Total of Funds on Deposit..... \$10,526.04

Permanent funds not available for general uses:

Bartlett Fund..... \$352.11
Pray Fund..... 1,173.62
Burnham Fund..... 1,449.23

\$2,974.96 2,974.96

Amount available for general purposes..... \$7,551.08

One essay in the prize contest has been submitted, but not deemed worthy of a prize.

Prizes will be offered for 1927 and 1928 from the Pray and Bartlett Funds, notices of which will be forwarded to each member of the society.

Respectfully submitted,

A. H. HARRIMAN,
CHANCEY ADAMS,
IRA J. PROUTY,
Trustees.

We, the Trustees of the N. H. Medical Society, have examined the account of Dr. D. E. Sullivan, Treas., and found it correctly cast and properly vouched.

A. H. HARRIMAN,
CHANCEY ADAMS,
IRA J. PROUTY,
Trustees.

The report was accepted and referred to the Committee on Officers' Reports.

On motion of the Secretary, and seconded by Dr. Parker, that the House of Delegates appropriate \$100 for the expenses of the Woman's Auxiliary, discussion ensued regarding its legality. On roll-call, twelve voted yes, seven voted no, and the motion prevailed.

SPEAKER: Dr. Clow has made a motion for a committee to be appointed to consider the communication of the BOSTON MEDICAL AND SURGICAL JOURNAL. I appoint

Drs. R. W. Tuttle,
H. O. Smith,
D. L. Stokes.

Voted to adjourn to meet immediately after the Afternoon Session.

JUNE 22, 1927

Meeting called to order at 5:30 p. m. by the Speaker.

On roll-call, a quorum was declared present.

The minutes of the previous meeting were read and approved.

SPEAKER: The first article of business is under the head of Unfinished Business,—the Report of the Committee on Amendments to the Constitution and By-Laws.

AMENDMENTS TO THE CONSTITUTION

Amend Article IV, Sect. 1 by inserting "in session" after Society in first line.

Sect. 3. "Affiliate Members shall be those members whose dues are remitted."

Renumber sections 3 and 4 to 4 and 5 respectively.

Renumber Section 5 and Section 6, and omit the words "not a resident of this state" and substitute "regular" for "annual".

"Article XII. New England Medical Council.

This Society shall be privileged, through its House of Delegates, to join with other New England State Medical Societies, and to participate in the activities of the New England Medical Council. The New Hampshire Medical Society shall be represented in this body by the President, Secretary-Treasurer, and three delegates-at-large. The three delegates-at-large shall be appointed by the President one for one year, one for two years, one for three years; annually thereafter he shall appoint one for three years.

Make the present Article XII become Article XIII. These amendments according to the provisions of the Constitution will be acted upon next year.

AMENDMENTS TO THE BY-LAWS

Chap. 1. Sect. 1. Add at end of last line,

"in accordance with Article VIII, Sect. 3 of the Constitution."

Sect. 3. Add at end of last line, "But this shall not apply to any member who joined the State Society before the formation of the component Societies and whose name may have been dropped from the roll of a component Society for non-payment of county dues, or upon his request, provided his State dues have been paid".

Chapter II. Sect. 2. Change "twenty" in last line to "a majority of the".

Chapter III. Sect. 1. Insert "affiliate members," in 2nd line between "members" and "honorary members".

Section 4. Add at end of last line "except by the unanimous consent of the members present".

Chapter IV. Section 1. In first line for "The House of Delegates shall meet annually" substitute "The first meeting of the House of Delegates shall be held at 7:30 o'clock p. m. preceding the first day of the meeting of the Society". In third line after "shall" add "thereafter".

Chap. IV. Sect. 2, in third line, change "one hundred" to "fifty". After "thereof" in fourth line add "as given in the last preceding report of the Secretary-Treasurer of the State Society".

Sect. 3. Insert after "Society" at end of third line "but without the privilege of participating in the business of the session except by a majority vote of the House of Delegates or as members of Committees in accordance with Chapter IV, Section 11."

In fifth line change "delegation" to "membership." Substitute at end of section, "after consulting with members from such county" for "in such county".

Chapter IV, Section 13. Add "The addresses and scientific papers need not be included in the printed transactions of the Society."

Chapter IV. H. of D. Add new section.

Section 14. "Ex-officio members to the House of Delegates shall enjoy all the rights and privileges of regularly elected Delegates."

Chapter V.

Sect. 2. Prefix—"The Speaker of" to first line and change the word "select" in second line to "appoint".

Chapter V.

Make section 6, chap. VI become Sect. 4 of Chapter V.

Change numeral of section "4" to that of "5."

Section 2. Add at end of last line, "and in the event of the death, resignation, removal, or disability of the vice-president the Speaker of the House of Delegates shall succeed the Vice-President."

Section 4. Add at end of first paragraph

"He shall notify each member of the House of Delegates, at least two weeks before each meeting of all new business that is to be transacted, or considered, at that meeting; and no other new business shall be transacted at such meeting except by a vote of three-fourths of the members present."

Omit Sect. 6, then make Sect. 7 become 6, and 8 become Sect. 7.

{ Transfer Sec. 6 of Chap. VI to
Chap. V and make it Sect. 4
of that Chapter.

{ Change numeral of Sect. 7 to 6.
{ Change numeral of Sect. 8 to 7.

Chapter IX. Sect. 2. Strike out the words "members or" in the fourth line. Strike out the words "Society or, of the" in the sixth line.

Chapter XII. Sect. 11. Change the words "one hundred" in the 6th line to "fifty".

Add new Chapter.

Chapter XIII.

"For the purpose of transacting any important business which the By-laws do not permit, the By-laws may be suspended by a unanimous vote of those present and in executive Session in either the House of Delegates, or in a General Session."

Make present Chapter XIII become Chapter XIV.

A. H. HARRIMAN,

T. W. LUCE,

J. J. COBB,

Committee.

According to the provisions of the By-laws these amendments will be acted upon tomorrow.

SPEAKER: We have with us at this time Dr. Holman Taylor, secretary of the Texas Society. We will be very glad to hear from Dr. Taylor.

DR. HOLMAN TAYLOR: Mr. Chairman, it really is a privilege that I can be here with you today.

Our House of Delegates is a wonderful institution and we meet in fear and trembling, when opening our meeting for three days' continuous session. It surprised me very much that two State Associations meeting in New England transact the business they do. We could not get by with it in Texas that way. I am sure I don't know what you want me to say to you. I will say, if you will permit me, however, that I am authorized by the President of our Association, under a sort of blanket authority, to extend to your Association from the Medical Association of Texas a most cordial greeting. I have come here to learn from you, in addition to enjoying your splendid company, and I asked your secre-

tary to permit me to attend this meeting here, and in his presence I perhaps might say without embarrassment to him,—and I am sure it will please you to hear me say it, that in your secretary you have a wonderful institution. I have known him in the House of Delegates for some years. He does not talk as much as we do, but if there is anything we want to know we go to him.

It seems to me that the New England Medical Council has recently been organized. I always have heard of the New England Delegation, and when I wanted to know how to vote I knew I wanted to know how the New England Delegation was going to vote. Your secretary has been fatherly to me and I have looked to him for advice. If I get into deep waters, I go to one of the tallest men and men who can reach bottom. I cannot do that much in Texas. We have too many problems, too much territory. We have almost every sort of country within the boundaries. When our delegates get together we have many different interests, sometimes the secretaries, the executive secretaries, as well as the smaller secretaries, have very varied interests.

I am reminded as to numbers,—it takes money to run an organization. I don't know how the smaller organizations do that; but I know they do accomplish things. We have found it necessary to increase our dues to \$10 a year. We have a State Medical Journal that brings in quite a little income. We spend something like \$60,000 a year. Quite an institution there. We have tried to save money and to build up a reserve in Texas and to do it without injury to our organization. We have managed to lay aside \$2000 or \$2500 a year since 1903. We have found that money makes money, so that now we have interest on high-class securities and money in the bank. Eventually, we can make our dues so that the members in the state can stand it without a feeling of financial discomfort,—if we don't we shall never build a Home and do some of the many things we want to do. After all, a single group of your members can find ways and means of using a surplus fund, if you have not already done it. You understand, I don't know your plans. I have no message to give along those lines. In Texas, we have had a wide experience; many mistakes we have made, many failures. I am certain I would be delighted to discuss many things with you.

SPEAKER: As Speaker, representing the House of Delegates, I wish to thank Dr. Taylor, and extend to him a hearty welcome.

Report of the Committee on Tuberculosis.

Your committee presents the following brief report. There is but little new to add to our previous reports. No curative or preventive agent has demonstrated its effectiveness since our last report save

the already well understood fundamentals in the treatment and prevention of tuberculosis.

Rest is still the fundamental factor in the cure of the disease. Accumulating years of experience in the treatment of tuberculosis only serve to demonstrate more clearly the effectiveness of Rest. The other factors of treatment although important are secondary to the prime requisite Rest. At some of our best sanatoria absolute rest in bed over long periods of time is now prescribed even for afebrile cases if moisture is present in the lungs.

During the year several so-called cures for Tuberculosis have been announced but only to prove to be unwarranted. Considerable progress in immunizing against Tuberculosis is apparently being made but data so far available is not conclusive.

There is now sufficient experience and proof to justify our large expenditures in institutional treatment for the tuberculous for it has been clearly shown that the tuberculosis death rate declines with the provision of adequate institutional treatment and care for open cases of tuberculosis.

It is, therefore, with a sense of keen disappointment that your committee reports that the Senate Finance Committee of the legislature of 1927, despite earnest appeal and detailed information as to needs, not only killed a much needed increase of \$15,000 a year granted by the House but cut the present appropriation for advanced cases and children's tuberculosis cases by \$10,000 a year for the next two years.

The Medical Profession of the state has been uniformly helpful and coöperative in the program of the organized agencies in the state to control and combat tuberculosis. The Anti Tuberculosis Campaign in the state is, on the whole, well organized and doing effective work as shown by the remarkable reductions in the death rate from the disease. During the year one of our committee members—a pioneer in the Anti Tuberculosis campaign in our state—has passed on. In the death of Dr. Samuel R. Upham of Claremont the state suffers a serious loss and the fight against Tuberculosis an effective leader. He was skilled in the early diagnosis of the disease and his success in treatment is attested to by the large numbers of his patients in whom the disease has become arrested.

ROBERT B. KERR,
ROBERT M. DEMING.

The Report was referred to the Committee on Officers' Reports.

On motion of the secretary it was voted that the next Annual Meeting be held Tuesday and Wednesday of the third week in May.

SPEAKER: Where shall the meeting be held?

SECRETARY: No invitations have been received.

Manchester, as place of the next Annual Meeting was selected by ballot receiving eight votes to six votes for Concord.

It was voted that the banquet be held on the first evening of the regular session.

REPORT OF COMMITTEE ON OFFICERS' REPORTS

Report of the Secretary-Treasurer. We recommend the acceptance of this report and its incorporation into the transactions of the Society.

Committee on Control of Cancer. We commend the Committee on Control of Cancer on its report and its work, and recommend the ap-

propriation of \$20 for which this committee has asked.

Reports of the Councilors. We recommend that the reports of the Councilors be accepted and incorporated in the transactions of the Society.

We recommend that the report of the Committee on Medical Education and Distribution of Physicians be accepted and incorporated in the transactions of the Society. We heartily congratulate this committee upon its thorough work on the subject matter, and wish to thank the committee for its arduous labors. We recommend that this report be read in the General Meeting also published in several of the prominent newspapers in the State of New Hampshire, and further recommend that this committee continue in office another year.

S. T. LADD, *Chairman.*

DR. PARKER: I move that the report be accepted. Seconded and carried.

REPORT OF COMMITTEE ON MEMORIALS AND COMMUNICATIONS

Communication of Olin West, Secretary of the American Medical Association, relative to Medical Relief in Disaster:

The proposal of the Committee on Medical Relief in Disaster embodies these features:

1. An organization in each state having for each county a medical man designated by the American Medical Association, to act at once, in case of disaster, in organizing and directing medical relief, until such time as properly constituted authorities arrive and assume charge. On arrival of representatives of state or federal bodies, or the Red Cross, this organization places itself under the direction of such bodies or ceases to function.
2. For counties the president of the county medical society should be the deputized head of the organization.
3. The state director of disaster relief should be the president of the state society.
4. The president of the county society should be allowed to deputize formally and publicly the direction of relief to another member of the profession of his choice, with full authority to act in his place.

We recommend

- (1) That the hearty endorsement of the N. H. Medical Society be given the proposal of the Committee on Disaster Relief.
- (2) That the Secretary-Treasurer be authorized to notify Dr. West of the readiness of the Society to participate in the organization.

FRED E. CLOW,
J. F. GILE,
T. F. ROCK.

It was moved and voted that the report be adopted.

Communication from American Medical Association in regard to teaching of medical ethics:

1. We recommend the adoption of the recommendation of the Board of Trustees of the American Medical Association at a meeting held in November, 1926, expressing the hope that the Council would "undertake to have lectures on

medical ethics made a part of the curriculum in every approved medical school".

2. We recommend the adoption of their report made at that time.

F. E. CLOW,
J. F. GILE,
T. F. ROCK.

It was voted to adopt the report.

Communication from Medical Society of Virginia (Walter Reed Memorial)

Communication from Committee of One Thousand:

We recommend that no action be taken.

FRED E. CLOW,
J. F. GILE,
T. F. ROCK.

Moved that the report be adopted. Carried.

Medical Society State of New York:

1. Resolved that this society go on record as in hearty sympathy and accord with the law passed by the State of New York in regard to medical practice.
2. We recommend that the Secretary-Treasurer write to this effect to the secretary of the New York state society and that the laws and letter be placed in our permanent files.

FRED E. CLOW,
J. F. GILE,
T. F. ROCK.

Moved and seconded that the report be adopted. Carried.

The Committee on Memorials and Communications respectfully suggests that authority be granted the Secretary-Treasurer to reply in his discretion to such inquiries as come to his office relating to matters of semi-official character. The value of many inquiries and requests for information is entirely lost through the fact that so long a time passes before their reference to a committee.

FRED E. CLOW,
J. F. GILE,
T. F. ROCK.

On motion, the report was adopted.

Communication from Walter P. Bowers, Managing Editor of the BOSTON MEDICAL AND SURGICAL JOURNAL:

1. We recommend that the offer of the BOSTON MEDICAL AND SURGICAL JOURNAL be accepted and that the President, Vice-President and Secretary-Treasurer be a committee to make arrangements to carry this recommendation into effect.
2. We recommend that the Transactions of the Society covering the reports of the House of Delegates, and its committees, roster of members, reports of the Trustees and all other business of the Society be continued as heretofore.
3. We recommend that the Committee on Changes in the By-Laws offer such amendments to the By-Laws as are necessary to effect the changes proposed.

FRED E. CLOW,
T. F. ROCK,
J. F. GILE.

On motion of the Secretary-Treasurer the report was adopted.

Resolution of South Dakota Medical Association:

1. We recommend that the House of Delegates heartily endorse the action of the South Dakota Medical Association.

2. We recommend that the House of Delegates record its opposition to the plan of the American Public Health Association, to place a Doctor of Public Health in communities, to advise, qualify and practice preventive medicine.

F. E. CLOW,
T. F. ROCK,
J. F. GILE.

Voted to adopt the report.

Communication of N. P. Colwell, Secretary of the Council on Medical Education:

We recommend that the President appoint a committee of three members of the Society to be known as the Committee on Medical Education.

F. E. CLOW,
T. F. ROCK,
J. F. GILE.

On motion of Dr. Parker the report was adopted.

Communication of W. C. Woodward regarding the promulgation of regulations under the Harrison Narcotic Act and the National Prohibition Law:

We recommend that the Society, through its Secretary-Treasurer, notify Dr. Woodward of its hearty endorsement of proposed legislation regarding the statutory requirements surrounding the issuance of regulations by bureau chiefs, department heads and others charged with such duties.

F. E. CLOW,
T. F. ROCK,
J. F. GILE.

It was voted to adopt the report.

Communication of the American Medical Association with reference to out-patient treatment of veterans:

We recommend that the Society ask the Representatives and Senators from New Hampshire to further legislation in opposition to any extension of such government gratuities.

FRED E. CLOW,
J. F. GILE,
T. F. ROCK.

On motion, the report was adopted.

Communication from the League of Nations Non-Partisan Association—Communication from Illinois State Medical Society, regarding expert testimony—Communication from Playground and Recreation Association of America—Communication regarding survey covering physicians as possibly eligible candidates for a home for aged and indigent doctors.

We recommend that these communications be filed.

F. E. CLOW,
J. F. GILE,
T. F. ROCK.

On motion the report was adopted.

Communication of American Medical Association regarding Automobile Liability Insurance, dated December 21, 1925

We recommend that the Secretary-Treasurer ascertain the status of the proposition and report at the next annual session.

F. E. CLOW,
T. F. ROCK,
J. F. GILE.

On motion of Dr. Sullivan the report was adopted.

Motion made and seconded that the reports of the Committee on Memorials and Communications, as a whole, as read be accepted. Carried.

The Secretary moved that the report of the Committee on Memorials and Communications in reference to communications from Dr. Woodward, in regard to National legislation, be sent to the senators and representatives in National Congress.

Dr. Parker appointed Dr. George C. Wilkins, Dr. Fred E. Clow and Dr. Charles Duncan the Committee on Medical Education.

Seconded. Carried.

Adjourned, to meet at 8:30 a. m., Thursday, June 23.

HOUSE OF DELEGATES

JUNE 23, 1927

Third Day

Meeting called to order at 8:30 a. m.

On roll-call, a quorum was declared present.

Minutes of previous meeting read and approved.

REPORT OF COMMITTEE ON NOMINATIONS

Dr. H. O. Smith, Chairman

President

Emery Moore Fitch, Sullivan County.
Eugene B. Eastman, Rockingham County.
A. Wilfred Petit, Hillsborough County.

Vice-President

Joseph J. Cobb, Coos County.
C. L. Smart, Belknap County.
George S. Emerson, Cheshire County.

Councilor for five years

Coos County—H. H. Marks, Berlin.
Carroll County—Fred E. Clow, Wolfeboro.

Trustee for three years

Ira J. Prouty, Keene.

Trustee to fill unexpired term of one year of

Dr. Chancey Adams

Thomas W. Luce, Portsmouth.

Speaker of House of Delegates

Fred E. Clow, Wolfeboro.

Vice-Speaker of House of Delegates

Elmer H. Carleton, Hanover.

Delegate to the American Medical Association for two years

D. E. Sullivan, Concord.
Alternate—David W. Parker, Manchester.

Delegate to Council on Medical Education and Hospitals, A. M. A.

George C. Wilkins, Manchester.

Delegate to Bureau of Health and Public Instruction, A. M. A.

Howard A. Streeter, Manchester.

Anniversary Chairman

Robert H. Brooks, Claremont.

Necrologist

George H. Clarke, Concord.

Standing Committees

Public Policy and Legislation

Charles Duncan, Concord.
John H. Neal, Portsmouth.
Frank E. Kittredge, Nashua.
President, Secretary-Treasurer ex-officio.

Scientific Work

D. E. Sullivan, Concord.
R. H. Brooks, Claremont.
O. H. Hubbard, Keene.

Committee on Publication

Secretary-Treasurer.
President.
Vice-President.

Committee on Tuberculosis.

R. B. Kerr, Manchester.
R. W. Deming, Glencliff.
Arthur Wallace, Manchester.

Committee on Mental Hygiene

Charles H. Dolloff, Concord.
Benjamin W. Baker, Laconia.
S. G. Davis, Nashua.

Delegate to State Societies

Maine—Louis W. Flanders, Dover, and H. H. Marks, Berlin.
Massachusetts—Ezra Jones, Manchester.
Vermont—L. B. Morrill, Center Harbor.
Rhode Island—D. G. Smith, Nashua.
Connecticut—R. W. Robinson, Laconia.

We recommend that the Secretary of the State Society be empowered to appoint an additional delegate and also a substitute delegate to attend the annual meetings of the foregoing state societies if the attendance of the duly elected delegate is impossible.

On motion of D. E. Sullivan, the report of the Committee on Nominations was accepted.

It was moved and seconded that the Secretary be instructed to cast one ballot for Emery Moore Fitch for President for the ensuing year. The Secretary cast one ballot for Dr. Emery Moore Fitch as President and he was declared elected by unanimous vote of the House.

It was moved and seconded that the Secretary cast one ballot for Joseph J. Cobb, as Vice-President for the ensuing year. The Secretary cast one ballot for Joseph J. Cobb as Vice-President for the ensuing year and he was declared elected by unanimous vote of the House.

It was moved and seconded that the Secretary be authorized to cast one ballot for the entire remainder of the officers as reported by the Committee on Nominations. The Secretary cast ballot for remainder of the officers as reported by the Committee on Nominations and they were declared elected by unanimous vote of the House.

DR. HARRIMAN: The Secretary has the copy of the By-Laws as revised, if you desire to have the whole By-Laws read he will do so, or read such portions as you wish. The delegates have the amendments made by the committee which indicated the changes to be made section by section.

The Secretary will read the whole of the By-Laws, as suggested, if you wish.

Discussion ensued.

MEMBER: I move that we accept the Report of the Committee on amendments to the By-Laws and adopt it with the exception of such portions as any delegate may wish to have considered separately.

Motion seconded and unanimously carried.

DR. H. O. SMITH: The question has come up in relation to Nominations of Members of Committees. It has been called to my attention that no mention was made of the Committee on Control of Cancer. I move that Drs. F. E. Clow, George C. Wilkins, and H. N. Kingsford be elected as members of that committee. Motion seconded by Dr. Luce and voted.

REPORT OF COMMITTEE ON LIABILITY AND GROUP INSURANCE

At the present time the insurance companies are not willing to write group insurance for physicians in the State of New Hampshire. The experiences of these companies have been disastrous in this state, one large company at least having stopped writing it entirely after raising its rates repeatedly.

If this situation continues the time may not be far off when we will be able to get no physicians' liability insurance.

We believe therefore that this matter should be given very careful consideration.

On account of the study and knowledge of this insurance by the New England Medical Council we recommend

1. That this question be studied further.

2. That a committee consisting of the members of the New England Medical Council be appointed to study this question and take action along some such line as used in Maine.

H. J. CONNOR, *Chairman*,
J. F. GILE,
T. F. ROCK.

Moved and seconded that the report of the Committee on Liability and Group Insurance be accepted and their recommendations adopted.

DR. LADD: I would like to amend that motion—that the incoming President should appoint members to fill in any vacancies that might occur in this committee.

Amendment to motion seconded; carried.

The motion to adopt the report as amended was adopted.

SECRETARY: Moved that the resolution of Dr. Luce be referred to the same committee.

Motion seconded, carried.

DR. TUTTLE: Report of the Committee on Memorials and Communications, on resolutions introduced by Dr. Clow.

Resolution. Admission to all scientific sessions of the Society shall be by the official badge. In the event of a semi-public lecture by a distinguished guest the Secretary, at the direction of the House of Delegates, may issue cards for the admission of guests of officers, affiliate members, honorary members, and members.

Reasons:

1. The scientific sessions are primarily for the benefit of members of this society.
2. Full and free discussion of the papers read is the best criterion of the success of the sessions.
3. The presence of a large number of guests prevents this discussion, particularly should the speaker desire to express opinions opposed to those of the essayist.
4. The proceedings of the scientific sessions should not be for publication in newspapers except as statements are issued to the press by the secretary of the society.

Recommendation that the resolution be adopted.

Moved and seconded that the report of the Committee be laid on the table. So voted.

DR. TUTTLE: Resolution in regard to a clinical meeting at Durham.

That a committee be appointed to investigate and report at the next annual meeting as to the feasibility of holding at Durham, in the University Buildings, at a proper time before the beginning of the college year, a clinical meeting of the State Society, such meeting to be composed of those who shall pay in advance a fee not to exceed twenty dollars, said meeting to last two or three days, with evening sessions if desired, speakers to consist of young teachers, specialists, etc., and that twenty dollars be appropriated for the committee's use for printing and postage.

DR. PARKER: I am heartily in favor of this movement from a theoretical and practical standpoint. I move that this report be accepted, but Dartmouth Medical School be substituted for Durham.

SPEAKER: Resolution and motion, as read and amended, seconded. Carried. How would that committee be elected?

DR. PARKER: By the President of the Society, I understood.

Dr. Fitch named Drs. J. F. Gile, F. E. Clow, and T. W. Luce the Committee on Medical Course at Dartmouth College.

SPEAKER: As Speaker of the House of Delegates, I wish to thank the different committees and all the members of the House who have so ably assisted the Speaker in the discharge of his duties, and you have my hearty thanks for your courtesies.

It was moved that the House of Delegates give to the Speaker a vote of thanks for the very able and impartial manner in which he has conducted the deliberations of this assembly.

Motion seconded. Unanimously carried.

SECRETARY: Moved that the House of Delegates express its appreciation to the Portsmouth physicians especially and to all persons who have made this meeting a success.

Unanimously carried by a rising vote.

On motion, the House adjourned sine die.

D. E. SULLIVAN, *Secretary-Treasurer.*

PETERBOROUGH HOSPITAL

THE Peterborough, New Hampshire, Hospital held its monthly staff meeting at the Hospital on October 19. Following a luncheon Drs. Thomas H. Lanman and Joseph Garland of Boston talked on the medical and surgical problems of infancy.

NOTE: Fellows of the New Hampshire Medical Society may receive all the copies of this JOURNAL by paying three dollars a year in addition to the sum paid by the Society, provided not less than seventy-five subscriptions are received. Under the present arrangement one issue a month will be sent to every member of the Society. In this issue the official records of the Society appear together with such news items as have been submitted. The cooperation of the members of the New Hampshire Medical Society is solicited. Please note that the BOSTON MEDICAL AND SURGICAL JOURNAL is published weekly and that there is but one other weekly Medical Journal in the United States.

FULL-TIME TEACHERS AT DUKE MEDICAL

At the annual meeting of the North Carolina State Medical Society, Dr. Wilburt C. Davison, Baltimore, outlined plans for the proposed Duke University School of Medicine at Durham. Dr. Davison was recently appointed dean of the new school of medicine. It is planned, he said, to limit the classes to fifty, and arrange the curriculum so that, with proper preparatory education, the course leading to a degree in medicine should be completed in three years. The teaching and hospital staff will be full-time instructors, amply compensated for their services. Construction will begin soon on a 350-bed hospital, and the school of medicine is expected to open in 1929. A number of physicians are now under observation by the board of trustees for positions on the faculty.—*National Board Bulletin.*

THE USE OF APES IN THE STUDY OF INFANTILE PARALYSIS

A CONSIDERABLE number of monkeys have been secured by the New York City Health Department and are being used in experiments which it is hoped will throw some light on the therapeutic possibilities of the use of serum from convalescent cases in treating infantile paralysis.

Several monkeys have been inoculated with the disease as it existed in patients in the Willard Parker Hospital.

Dr. Josephine B. Neal is in charge of the experiments but according to the reports in newspapers is not enthusiastic as to results.

**Case Records
of the
Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 13441

AN ATYPICAL ANEMIA

MEDICAL DEPARTMENT

First admission. A Canadian machinist fifty-six years old entered for the first time March 19, six years and a half before his fifth and last admission, complaining of diffuse abdominal pain.

For fifteen years he had been troubled with constipation and gaseous distention. For three years this had been worse and he had had a feeling of fullness in the abdomen with diffuse pain, more marked in the right upper quadrant, where for nine months there had been tenderness. For a year and a half he had been unable to work. Nine months before admission he tried to do farm work, but found it brought on his symptoms and had to take to kitchen work. The dyspnea increased. For nine months his skin had been sallow. Since dilatation of the anal sphincter three years and a half ago for fissures he had urinated three times at night. His memory and eyesight had become very poor. Before his illness he never drank water; for the past few months he had taken at least four glasses a day, he thought because of sodium phosphate which he took for constipation.

Records of Out-Patient Department show a visit in August, two years and a half before his admission to the wards; complaint, diffuse abdominal pain of nine months' duration. Appetite and sleep poor. Two attacks of chills in the past year. Four years ago and again the previous winter he spat some bright red blood. Blood in stools. Micturition difficult. Blood smear showed no anemia. X-ray examination with barium showed no abnormalities except delay in the terminal ileum and rapid emptying of the colon. The findings were suggestive of adhesions about the appendix region. Proctoscopy was negative except for slight fissures and impacted feces. In December of the following year he had wens removed from both cheeks at the Eye and Ear Infirmary. In the following March examination in the Out-Patient Department showed him extremely pale, lemon tint, mucous membranes very pale. Slight tenderness in the right upper quadrant, most marked toward the median line and in the right epigastrium. Liver edge felt 4 centimeters below the

costal margin. Spleen, kidney and heart negative. Blood smear showed secondary anemia.

Family history. One sister was insane following the menopause. One daughter had "stomach trouble" and anemia. One son died of influenza with hemoptysis seven months ago.

Past history negative except for generalized swelling and sensitiveness of the upper and lower gums a year before admission for four weeks, with very profuse saliva.

Clinical examination. Skin moist, pale lemon colored. Mucous membranes pale. Teeth poor. Pyorrhea. Apex impulse of the heart not seen or heard. No enlargement to percussion. Sounds distant, action slow. Pulmonic second equal to aortic second. A long soft murmur at the apex and base. Artery walls slightly palpable. Blood pressure 120/80 to 100/60. Slight spasm in the right upper quadrant. Slight tenderness in the right epigastrium. Liver dullness not increased. On the inner aspect of the left knee a walnut-sized soft vascular swelling.

Urine cloudy at 2 of 6 examinations, alkaline at 1, specific gravity 1.012 to 1.020, the slightest possible trace to a very slight trace of albumin twice, rare leucocytes at all, Renal function 40 per cent. Urine negative for arsenic. Blood: leucocytes 4,800 to 4,000, polynuclears 39 to 72 per cent., hemoglobin 25 to 42 per cent. Sahli, reds 1,324,000 to 2,088,000, moderate to considerable achromia, moderate changes in size and shape, rare to occasional polychromatophilia, platelets diminished, reticulated reds 5 to 11.1 per cent. Wassermann negative. Clotting time sixteen and a half minutes. Bleeding time three minutes. Stools negative. No lead in urine or stool. Fasting contents of stomach: 15 cubic centimeters white mucoid fluid, no free hydrochloric acid, total acid 0, guaiac positive. Test meal: 10 cubic centimeters, free hydrochloric acid 0, total acid 8, guaiac positive. Microscopic examination of both showed rare Oppler-Boas bacilli. X-ray with a barium meal showed no abnormalities except rather general tenderness over the right abdomen not definitely localized, thought probably to be due to pathology in the gall-bladder or the appendix. Plates of the gall-bladder region unsatisfactory. Wolff-Junghaus test suggested gastric malignancy. Report of skin consultant: "Slightly suspicious of pellagra on account of history and pigmentation, but there is not enough for a diagnosis."

Dr. Book examined the blood and found numerous large round and oval macrocytes, a few scattered microcytes and occasional distorted forms. There were roughly 12 per cent. polychromatophilic cells and 15 per cent. reticulated reds. Platelets were reduced in number but were large. No blasts were seen. There were frequent stippled cells, stippling sometimes marked. Some of these strongly suggested that the stippling was an attempt to represent reticulation.

March 28 the nodule on the knee was removed. The pathologist reported, "The examination suggests sarcoma of a low grade of malignancy, possibly arising from smooth muscle."

April 14 630 cubic centimeters of blood was transfused. The following day the temperature arose to 104.2°. The reticulated reds were 11 per cent. The regeneration was, however, not continued. Four days later the reticulated cells were only 5 per cent. and the red count had dropped from 2,088,000 to 1,920,000. April 19 the patient was discharged.

History of interval. After leaving the hospital he felt fairly well. In the middle of September he grew weak, fainting two or three times in the morning. He was sent to a hospital, where a prognosis of a few days was made. He had sores in his mouth and swelling of the cheeks. On severe straining he passed blood in urine once. December 26 he had a chill. His legs swelled a little by day.

Second admission, December 27, eight months after his discharge.

Clinical examination. (As before except as noted.) Heart action slightly irregular. A soft systolic murmur over the precordia, best heard at the apex. Blood pressure 124/50. No abdominal tenderness. Liver edge 3 centimeters below the costal margin. Edema of legs to the knees. Knee-jerks hypoactive.

Urine not remarkable on 6 examinations. Renal function 25 to 35 per cent. Blood 2,800 to 5,600 leucocytes, polynuclears 48 to 36 per cent., hemoglobin 25 to 35 per cent., reds 760,000 at entrance, 1,670,000 at discharge. Entrance smear: very little achromia, numerous large old deeply staining macrocytes, hardly any tailed forms or microcytes, slight changes in shape, a few polychromatophilic cells, no blasts, platelets normal, reticulated cells 37 per cent. Later smears showed a few to frequent tailed cells, reticulated cells 40 to 25 per cent., 1 to 3 normoblasts in 2 of 3 smears, platelets 690,000 once, diminished once. Wassermann negative. Bleeding time 1¼ minutes. Clotting time 13 to 15 minutes. Clot retraction slight. Basal metabolism +11 December 31, -3 January 14. Examination of duodenal contents: pigment values extremely high, evidence of very abnormal blood destruction; serum also very high colored. Stools, guaiac negative.

Temperature 97.4° to 101.3° with elevation to 103.5° following transfusion and to 103° January 11. Pulse 72 to 110. Respirations normal.

December 31 transfusion of 600 cubic centimeters of blood was done. The blood showed no great evidence of regeneration after it. A prognosis of a few months was made, "Apparently both making and destroying blood at an unusual rate of speed." January 16 he was discharged.

History of interval. After leaving the hospital he felt somewhat better but was too weak to work. After a month he felt worse again, then

continued at about the same level for three years. He had numbness and tingling of the fingers and toes. His extremities were very cold in winter. He had marked constipation and increasing itching of the skin. Before his third admission his complaints, weakness and shortness of breath, were much worse than ever before. For the week before his third admission he had mildly productive cough and difficulty in swallowing. He had increasing frequency, reaching 6 to 8 times by day and 4 to 5 at night.

Third admission, May 10, two years and a half after his last discharge.

Clinical examination. Slight emaciation. Skin dry, with an extreme degree of dusky yellow pallor with sharply outlined smooth grayish pigmentation over the exposed areas. A small group of slightly dried blood vessels in the left cheek forming a hemorrhagic spot. Sclerae subicteric. Tonsillar pillars reddened. Several translucent nodes of lymphatic tissue (?) on the uvula. Mucous membranes extremely pale. Tongue, papillae not prominent, margins smooth and somewhat glossy. Barrel chest. Bronchovesicular breathing at the right apex front and back and in the left back near the vertebrae from the fifth to the seventh ribs. Slight dullness at the left base posteriorly. Apex impulse of the heart in the fifth space. Diffuse systolic retraction of sternum, ribs and interspaces over the precordia. First sound at the apex loud on deflation of chest, followed by a long blowing low pitched murmur transmitted into the axilla and the right lower chest posteriorly. Shorter early diastolic murmur over the precordia, loud and rough over the aortic area and arch. Loss of position sense in right fingers and toes.

Urine 34 to 80 ounces, cloudy at 2 of 6 examinations, alkaline once, neutral once, specific gravity 1.006 to 1.014, a very slight trace to a trace of albumin at 5 examinations. Renal function 15 to 75 per cent. Blood: 12,200 to 4,800 leucocytes, 60.5 polynuclears, hemoglobin 20 to 35 per cent., reds 704,000 to 1,960,000. Entrance smear showed moderate anisocytosis, slight to moderate poikilocytosis, most of the cells achromatic, many macrocytes, only occasional microcytes, occasional large oval, rare tailed cells; almost 50 per cent. of the reds showed polychromatophilia, one with basophilic stippling; platelets diminished; reticulated cells 58 per cent., practically all larger than normal and heavily reticulated. Later smears showed 35 (?) to 60 per cent. reticulated cells. Wassermann negative. Clotting time 20 to 24 minutes. Fragility: hemolysis began at 0.36, not complete at 0.28. Basal metabolism -2.5 per cent. Non-protein nitrogen 29.9 milligrams. Stools, guaiac positive at 2 of 3 examinations, no macroscopic blood.

Splenectomy was advised but was refused by the patient. As he strongly desired two months of active life to accomplish certain things, and

without assurance of any permanent benefit, 600 cubic centimeters of blood was transfused. He had a moderately severe reaction after it, with fever and malaise. May 29 he was discharged.

History of interval. After leaving the hospital he felt quite well, gained weight and took on a good color. After six weeks he followed advice to go away from the salt water, and after this improved much more and was afterward able to do some light work for a week. The first week in September he caught cold and had a choking feeling in his upper chest and dry unproductive cough. September 7 dull continuous pain developed in his lower abdomen, worse he thought when he lay down. His urine was dark, "like blood." He urinated three or four times at night. He had urinated at night for four years. September 9 his color was bad. The morning of his fourth admission his finger tips tingled.

Fourth admission. September 11, three months months and a half after his last discharge. Clinical examination was the same as at the third admission.

Urine 35 to 65 ounces, specific gravity 1.008 to 1.020, dark red at the first 5 of 6 examinations, cloudy at the last, a large trace to the slightest possible trace of albumin at all; sediment, occasional red blood cells at 1 of 6 examinations, guaiac very strongly positive at another, leucocytes at 3, granular casts at 5. Non-protein nitrogen 31.5 milligrams. Blood: 5,800 leucocytes, polynuclears 47 to 34 per cent., hemoglobin 35 per cent. at entrance to 55 per cent. an hour and a half after transfusion, reds 2,160,000 to 1,120,000, platelets decreased, reticulated cells 30 to 40 per cent. Wassermann negative. Bleeding time $2\frac{1}{4}$ minutes. Clotting time 15 to 20 minutes. Clot retraction poor. Serum dilution between 120 and 150. Fragility began at 36, complete at 24. Bile test negative. Hemolysin test: "Do not believe there is enough evidence to demonstrate positively the presence of hemolysin."

Transfusion was done September 14. The blood showed remarkable improvement after it. The urine cleared somewhat. The tongue showed only slight doubtful atrophy of the papillae at the edges. The spleen was felt just below the costal margin. Splenectomy was again advised and was again refused. September 25 the patient was discharged.

History of interval. After leaving the hospital he was able to work off and on. In February, five months later, he entered another hospital because of fainting. He remained three months and was given one transfusion. His red count was 1,440,000 to 928,000 (after transfusion), hemoglobin 20 to 28 per cent., leucocytes 5,400 to 4,400. X-ray showed a large heart and a suggestion of a mediastinal growth in the region of the right hilus. After leaving the hospital he felt well and worked off and on for two years. Then he had marked dyspnea and palpitation on

slight exertion. Before his fifth admission itching of the skin became more generalized and severe.

Fifth admission. November 29, three years after his last discharge.

Clinical examination. As before except as noted. Tongue atrophic. Palate, Fordyce's disease. A bean sized left axillary gland. In the right upper quadrant tenderness and dullness extending 4.5 centimeters below the costal margin in the mammary line, where the liver edge was felt. Questionable slight hypertrophy of the prostate. Very slight thickening of the left epididymis. Slight Heberden's nodes. Slight pitting edema of both ankles. Pupillary reactions slight. Fundi: discs pale, not sharply outlined, arteries small, tortuous.

Urine 38 to 85 ounces, specific gravity 1.010 to 1.015, red at 1 of 6 examinations, cloudy at 4, alkaline at 1, the slightest possible trace to a trace of albumin twice, rare to occasional leucocytes twice, pus once, red cells once, loaded with coarse granular casts once. Renal function 50 per cent. Blood: 2,300 to 6,000 leucocytes at 8 examinations, 9,000 to 17,200 at 2, polynuclears 64 to 31 per cent., hemoglobin 30 to 50 per cent., reds, 1,760,000 to 800,000 at admission, rather moderate anisocytosis and poikilocytosis, no stippling, some achromia, several basophilic cells seen, platelets slightly diminished, reticulated cells 12 per cent.; later smears showed marked variation in size and shape, moderate achromia, occasional polychromatophilic and stippled cells, platelets normal December 2, markedly diminished December 19, reticulated cells 12 to 54 per cent. Red cell diameter measurement December 1, median 7.23 micromillimeters, dispersion 1.42 micromillimeters; "The median here is not suggestive of pernicious anemia but rather of a hemolytic anemia." December 16 8.23 micromillimeters, dispersion 2.55 micromillimeters; "Increase in median probably due to 54 per cent. of reticulocytes, as the reticulocytes tend to be larger than the normal sized cells." Fragility test: hemolysis began at 0.48 to 0.50 per cent., complete at 0.28 to 0.30 per cent. Wassermann negative. Icterus index 7 to 25. Coagulation time 3.5 to 8 minutes. Clot retraction within one hour. Blood culture negative. Stools: guaiac strongly positive at 1 of 6 tests, faintly positive once, macroscopic blood twice. Fasting contents of stomach: 36 cubic centimeters grayish watery mucoid acid material, possibly slightly foul, free acid 0, combined acid 4, guaiac positive; a few red blood cells and about 30 leucocytes per high power field, a few Oppler-Boas bacilli. Test meal: 30 cubic centimeters yellowish white pasty acid material, possibly foul, loaded with sediment, no free acid, combined acid 9, guaiac positive. Microscopic examination as before, and in addition loaded with swollen starch grains.

X-ray examination of the gall-bladder by the Graham test showed less than normal density;

no definite evidence of disease. A barium enema showed no abnormalities. There was no evidence of stone in the kidney region. Low in the pelvis were several round dense shadows, probably phleboliths. The internal iliac arteries showed calcification. The sacro-iliac joints were obliterated on both sides. Examination of the stomach was essentially the same as that made six years earlier. Both lung fields were clear. The heart shadow seemed a little large.

Chart not remarkable until December 9, when the temperature rose to 104°; afterwards temperature 98.8° to 103.1°, pulse 79 to 132, respirations 19 to 43.

The patient was put on the Murphy-Minot diet plus high fats. December 8 transfusion of 500 cubic centimeters of blood was done with no reaction. After this the patient grew steadily weaker and more jaundiced. A blood consultant reported: "Opinion the same as three years ago . . . Splenectomy offers the best hope." December 16 the leucocyte count was 17,200. The liver was tender. The reticulated cells were now 54 per cent. December 12 there were purpuric spots on the arms, cheeks and palate and rales at both bases. The leucocyte count was down. The purpura increased. December 20 there was a patch of consolidation at the left base. December 21 500 cubic centimeters of blood was transfused. The patient was a little stronger afterward. The consolidation extended. He became very dyspneic and more jaundiced. December 22 he died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

The swelling on the inner aspect of the left knee was presumably a fatty tumor. We ought to know how long it has been there, and we are not told, so far as I remember.

I take it that the urine was negative in other ways, as well as for arsenic.

In the blood examination the findings in the smear contradict the hemoglobin percentage. I think the smear is the best thing to believe.

"Reticulated reds 5 to 11.1 per cent." That tends to show active regeneration of red cells in the marrow.

It is just as well to guess as we go along. My guess is pernicious anemia. There are several things that are not characteristic, but I think that is what they called it, and not secondary anemia, though that is suggested by the achromia.

The blood pressure is quite striking, if true. "Numerous large old deeply staining macrocytes." Just how they knew they were old I do not know. We know how to recognize very young corpuscles, but we have no way to recognize old ones.

"Reticulated cells 37 per cent." That is a

tremendously high figure. The normal is about one half of one per cent.

"Apparently both making and destroying blood at an unusual rate of speed." Which means I think that they called it pernicious anemia, and I should, so far.

I cannot imagine that the sarcoma was of any importance. It has been going on three years now.

"He had numbness and tingling of the fingers and toes." I imagine he had it before, only they took the history more carefully this time.

They tell us about the looks of the tongue, but not about the feeling of it, which is much more important.

Of course with intense anemia you pay very little attention to any murmur, systolic or diastolic. It has been shown that you can get any kind of murmur in intense anemia, without anything wrong in the heart valves.

The blood examination is almost exactly the same as at the last entry.

On account of the tremendous blood destruction and high percentage of reticulated cells they are wondering if splenectomy would help him. They advise it, but he refuses.

"After leaving the hospital (in the fourth interval history) he felt well and worked off and on for two years." This is a most extraordinary case.

The leucocytes have been low every time.

They have undertaken the measurement of his cells, a pretty bothersome thing to do, but it is important. They are essentially normal in size. They ought to be increased.

DIFFERENTIAL DIAGNOSIS

I think he died of his anemia. But the question is, What is back of the anemia? I have never seen an anemia just like this. In many respects it is like pernicious. In favor of pernicious are the age, the remissions, the absence of hydrochloric acid, and some of the points about the blood, together with the negative physical examination otherwise. The points against pernicious are in the first place the enormous percentage of reticulated cells, which is not at all common in pernicious anemia. The size of the red cells is not right. They should be larger. They have apparently been achromic a number of times, and they never ought to be in pernicious anemia. I can not see anything to which this anemia could be secondary. If he was going to have a neoplasm in his bone marrow or mediastinum it should have shown up before this. He has had it for six years. There is nothing in his heart or kidney that would cause anemia, so far as I see. So I should say that this is a hemolytic anemia resembling pernicious more than any other one I can name, but atypical. It has some of the features of an aplastic anemia, but many that are not characteristic of that. I think that is as far as I can go.

A STUDENT: Can you have both tumor of the bone marrow and pernicious anemia, Dr. Cabot?

DR. CABOT: Yes. That certainly should be considered. The question is, could he have had it as long as this? I should say no. If he did it is news to me that you can have a tumor anywhere in the body, that is a marrow tumor, as long as this.

A STUDENT: Why do the reticulated cells not go with pernicious anemia?

DR. CABOT: You get an increase in the reticulated cells in pernicious anemia, but not such an increase as this. You get it in splenic anemia and in some of the hemolytic anemias of unknown cause, which is about as much as we can say of this. This is a hemolytic anemia of unknown cause, not typically pernicious, but more like pernicious than any other that I can think of.

A STUDENT: How about Banti's disease?

DR. CABOT: I do not think we can call it that. He never had any evidence of portal stasis.

A STUDENT: How about sprue?

DR. CABOT: I do not know anything about it.

A STUDENT: How about jaundice? Do not the hemolytic anemias differ from pernicious in having jaundice?

DR. CABOT: You can have hemolytic anemia without much if any jaundice. It is the cases that have more jaundice than usual that support that idea. Pernicious is a hemolytic anemia, but you do not ordinarily have jaundice in it. It is just the lemon yellow tint, not enough to call jaundice.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Anemia, atypical.
Hypostatic pneumonia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Hemolytic anemia resembling pernicious anemia, but atypical.

ANATOMIC DIAGNOSES

1. *Primary fatal lesion.*
Hemolytic jaundice.
2. *Secondary or terminal lesions.*
Hypertrophy and dilatation of the heart.
Bronchopneumonia.
3. *Historical landmarks.*
Fibrinous pleuritis.
Arteriosclerosis.

DR. TRACY B. MALLORY: I do not know that the post mortem findings are going to clear things up very much. They are not characteristic of pernicious anemia. That much we can say definitely.

The femoral marrow was partially fatty, but not the yellow, fatty bone marrow of a normal

person. There were areas of congestion and of red cell formation in it. On the other hand in true pernicious anemia you customarily see the entire fat disappear from the bone marrow, and you get a bright red hyperplastic marrow. This was half way between the two. Histologically the same thing is true. Instead of the extremely intense and atypical degree or type of regeneration that you see in pernicious anemia this was hyperplastic, but rather moderately so. There were a great many normoblasts, but very few megaloblasts.

The other organs were not particularly striking. There was a slight bronchopneumonia which undoubtedly hastened his death.

The heart was very large, 640 grams, with an extraordinary amount of fat about it.

The liver was large, weighing 1830 grams, with considerable fat. There was no evidence of bile stasis. There was a very slight degree of necrosis of cells in the center of the liver, no more than we see in a great many anemias.

The spleen weighed 320 grams, approximately twice the normal size. Histologically it showed evidence both of blood destruction and of blood formation. There were numerous large phagocytes filled with red cells. There were also young immature cells of the red series.

The kidney did show a considerable amount of bile pigmentation present in the tubules. So that I think Dr. Cabot's diagnosis comes as close as anything that we can call it.

A STUDENT: How would the spleen look if this were Banti's disease?

DR. MALLORY: You probably would not find any evidence of regeneration of blood cells in the spleen in Banti's disease. I have not happened to see it at any rate.

A STUDENT: Why did they advise taking out the spleen?

DR. CABOT: Presumably because there was so much evidence of blood destruction, and the spleen is often connected with blood destruction.

CASE 13442

UNFORTUNATE RESULT FROM APPENDECTOMY

SURGICAL DEPARTMENT

First admission. An Irish-American housemaid seventeen years old entered the hospital July 12, about four years ago, complaining of pain in the right groin.

Three months before admission while walking she was suddenly seized with cramp-like pain in the right lower quadrant radiating a short distance to the right. In a few minutes she vomited food eaten at the last meal. She was obliged to rest until she was taken home to bed. After the pains had subsided she was weak and had little appetite. She had had several other similar attacks. During the recent ones her stom-

ach was distended and reduced by vomiting. Her appetite had grown progressively worse until at present she ate very little. Her last attack was on July 8 and lasted all day. Her weight had fallen in two months from 120 pounds to 105.

She had occasional attacks of tonsillitis. Three years before admission she had pneumonia, and the following year a second attack. She had colds in winter. A year before admission one tonsil was removed. She was short of breath on climbing a long flight of stairs or scrubbing.

Clinical examination showed a very tall, thin girl. Lungs clear. Heart not enlarged. A faint hemic murmur at the left sternal margin. Abdomen negative except for tenderness on deep pressure at McBurney's point. No spasm. Pelvic examination not done. Pupils and reflexes normal.

Before operation amount of urine not recorded, urine not remarkable. Blood: 12,300 to 9,800 leucocytes, 71 per cent. polynuclears, 70 per cent. hemoglobin, reds 4,590,000, slight achromia. Wassermann negative.

Before operation temperature 98° to 99.8°, pulse 73 to 98, respirations normal.

July 19 operation was done. She made a good convalescence and was discharged July 31.

History of interval. Soon after leaving the hospital she began to have occasional attacks of moderate abdominal pain. Six months after her discharge a physician wrote that she was having pains just as before operation and felt no better. "There is a small linear incision on the lower surface of the wound. She is obviously keeping the wound open, as she has had dressings daily at the principal hospital for the past six weeks." A year after this note she reported at the Massachusetts General Hospital complaining of left sided abdominal pain of three months' duration, nausea during micturition and irregular menstruation with menorrhagia. X-ray examination of the genito-urinary tract showed no evidence of stone.

Two years after her discharge an exploratory laparotomy was done at another hospital. No pathology was found. Seven weeks before her readmission she began to have attacks of very severe lower abdominal pain associated with marked distention and constipation. During one of these attacks she entered a hospital, where a diagnosis of intestinal obstruction was made. A loop of sigmoid was freed from the right ovary and tube, which were removed, although not greatly inflamed. During her three weeks' convalescence she continued to have severe attacks with distention and left lower quadrant pain lasting a day, and nausea. Enemas gave no results. Two days after leaving the hospital she had such a severe attack that she was taken again to a hospital. She was discharged without operation. February 25 she

was seized with sharp cramp-like pains low down in the left side of the abdomen radiating down the leg. She went home and lay down. She vomited several times the same day and continued to have pain. February 26 she felt better, but vomited everything she ate. She came to the Out-Patient Department and was advised to go home and return if she had any more pain or vomiting. That night the pain and vomiting returned and she came to the Emergency Ward. She had not menstruated for three and a half months. It was not unusual, however, for her to skip a month.

Second admission. February 27, three years and a half after her discharge.

Clinical examination showed no noteworthy changes except that she was well nourished and that the abdomen was distended and tympanitic, with three operative scars, one right rectus, two midline. Peristalsis was heard with the stethoscope but none was visible externally. Occasionally during examination the patient's face became pinched, she complained of cramp-like pain in the abdomen and her abdominal muscles became tense. When she relaxed there was no real muscle spasm. No mass could be felt. There was tenderness in the left lower quadrant on deep pressure. Pelvic examination showed a marital introitus but no evidence of infection or inflammation. The uterus was in good position. Rectal examination showed questionable tenderness on the left side.

Before operation March 29 amount of urine not recorded, specific gravity 1.005 to 1.020, cloudy at one of five examinations, sugar at one, no albumin. Blood: 8,400 to 14,500 leucocytes. Wassermann negative. Non-protein nitrogen 16 to 31. Blood chloride 572 to 605.

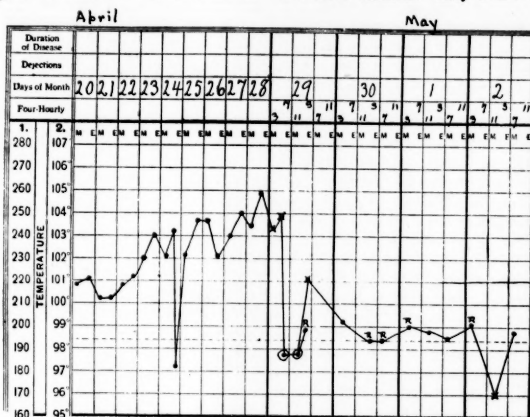
X-ray examination of the genito-urinary region showed an unusual amount of gas present. Some of it appeared to be in the small intestine, which was distinctly abnormal and suggested a paralysis of the bowel. There were no shadows present suggestive of stone. The kidney outlines were not visible on either side. Examination with a barium enema showed some dilatation of the rectosigmoid and slight delay of the barium at the point where the sigmoid loop dips into the pelvis. By rotating the patient to the left, however, the barium passed freely through this point and filled the remaining portion of the colon without delay. The entire colon appeared to be somewhat dilated. There was no evidence of marked obstruction. Examination of the chest was negative. A plate of the sacral region included only the three lower lumbar vertebrae. There was no evidence of psoas abscess.

Before operation temperature 97° to 102°, pulse 60 to 105, with one rise to 120 March 15, respirations 16 to 37.

During the day after admission the distention subsided. An enema gave good fecal results. There was considerable rigidity of the muscles

throughout the abdomen and definite spasm and marked tenderness in the left lower quadrant. Peristalsis was audible and very active. A medical consultant thought the case was not lead poisoning, and thought the patient hysterical. February 28 the distention and pain were all gone. The tenderness persisted. Pelvic examination was negative. She seemed much improved. March 1 the abdomen again became distended. She had severe left lower quadrant pain and vomited three times. Once the vomitus was blood streaked. Her bowels were loose. March 3 there was more distention and vomiting. Enemas gave no result. March 5 an in-

throat. A medical consultant found the chest normal. By the 17th the pain and distention were as severe as before operation. Enemas and rectal tube gave no relief. Poultices to the abdomen helped a little for a few days. Her bowels moved normally. Vomiting after eating continued. The temperature from April 20 to May 2 is shown in the chart. The night of April 26 she complained of steady dull pain in the left lower quadrant low down as far as the groin and running down the leg medially. There was tenderness on light percussion over the left part of the back. She held her thigh partly flexed to relieve tension. May 1 she was up and about



x = temperature taken unwatched. o = temperature taken watched.

r = rectal temperature.

definite mass was palpable in the left lower quadrant. Her condition showed little change. A neurologist thought she was not frank, believed there was a distinct psychological element, and advised a Social Service study. During the next week she did very well. March 14 she again had considerable pain and moderate distention. This continued for two days and after a remission of a day returned. March 18 the rectal sphincter was dilated under ether and about two pounds of putty-like material removed. The next day there was excellent result from an enema. She was more comfortable than she had been for a week. She continued to have distention, pain and occasional vomiting. She still ran a temperature. A Widal test was negative. A medical consultant found no evidence that organic disease was a factor.

March 29 operation was done. She made a good surgical recovery, with no distention. Her general condition was now better than at any time since admission. April 12 she again had distention and some abdominal pain and sore

feeling well and with less distention. There was a question of malingering in connection with her high temperature. After she was watched her temperature was normal. May 6 she was discharged improved.

DISCUSSION

BY EDWARD P. RICHARDSON, M.D.

This patient's stay in the hospital from July 12 to July 19 suggests that there was nothing very definite in her story to lead to an immediate operation. Yet from the loss of weight it seemed probable that there was an organic cause for her symptoms. The urine was negative, the blood negative. She showed essentially no leucocytosis and no temperature. After turning the case over and considering it, she was finally operated on by me. The presumptive diagnosis was appendicitis.

We have a great many young girls coming to the hospital with symptoms of right-sided pain of more or less fleeting character, occasionally

accompanied by nausea, and the same question comes up: Have they appendicitis? Is it justifiable to operate?

We attempt to scrutinize the conditions and have the attitude that chronic appendicitis is not so frequent as is ordinarily stated. Most chronic right-sided pain is not due to the appendix but is due presumably to distention of the cecum of fleeting character, and to some disturbance in the function of the right colon. So in each case we try to weigh the evidence presented by the history and physical examination and also the temperament of the young girl. In this case it seemed wise to take out the appendix, since the history was somewhat suggestive of a mild acute attack.

DR. RICHARDSON'S PRE-OPERATIVE DIAGNOSIS

Appendicitis?

PRE-OPERATIVE DIAGNOSIS

Chronic appendicitis.

OPERATION, FIRST ADMISSION

Gas-ether. Right rectus muscle retracting incision 2 inches long. The appendix was not adherent, rather long, somewhat contracted at the base. It was removed in the routine manner. The uterus was in good position. The tubes and ovaries were negative. The wound was closed with continuous catgut.

PATHOLOGICAL REPORT

An appendix 7 centimeters long and fibrous.
Chronic appendicitis.

FURTHER DISCUSSION

These are the ordinary findings. I do not think we can take definitely the result of pathological examination as evidence whether or not the patient suffers intermittently from the appendix, because in my conception the pain arising from the appendix may be functional as well as organic, and with angulation of the appendix and temporary distention there may be pain arising from the appendix with subsequent discharge of its contents into the cecum, and yet on pathological examination no definite findings.

This patient made a good convalescence. The next time she was seen was in the Emergency Ward of this hospital. Her wound was not healed in spite of dressings after six months, and we felt very clearly that she was doing something to keep it open.

A year later she reported again. X-ray examinations of the urinary tract showed no evidence of stone, and we did not advise any operative procedure.

Two years after the first operation an exploratory operation was done in another hospital. No pathological condition was found.

At her second admission clinical examination

showed no noteworthy changes except that she was well nourished and that the abdomen was distended and tympanitic. She stayed until March 29, when she was again operated on.

On account of persistent symptoms suggesting intestinal obstruction, non-protein nitrogen and blood chlorides were done on several occasions. Neither of them showed the retention of non-protein nitrogen which sometimes occurs in intestinal obstruction, or the low blood chloride due to vomiting.

Sometimes in intestinal obstruction a plain X-ray plate will show the distribution of the gas and so lead to a hint as to the nature of the obstruction.

It is always possible in cases of intestinal obstruction where there is doubt as to the level—provided the patient is in relatively good condition—to exclude an obstruction of the colon by means of a barium enema. This does not intensify the symptoms as barium by mouth might, and is very useful in determining the position in the colon, and consequently the proper measures to carry out. Here there may have been some evidence of narrowing of the colon, but essentially the examination was negative.

This patient came in with symptoms of obstruction. Immediate operation was considered, but in view of her past history was postponed. The next day she seemed to have recovered from the obstruction. From that time at most examinations she showed a distention of the abdomen. To my mind it was never clear whether it was wholly an actual distention or whether partly due to a trick she had of arching her lumbar spine forward and squeezing her diaphragm. At the same time she had a certain amount of temperature, occasional vomiting, and occasional obstipation.

After following her a month in the hospital wards it seemed reasonable to suppose there was some organic partial obstruction, and after thorough consideration another operation was done.

DR. RICHARDSON'S PRE-OPERATIVE DIAGNOSIS

Partial intestinal obstruction.

PRE-OPERATIVE DIAGNOSIS

Intestinal obstruction from adhesions.

OPERATION, SECOND ADMISSION

Gas-ether. The abdomen was opened through the old scar to the left of the median line. Extensive adhesions of the anterior abdominal wall were found. These were separated partly by ligation, partly by dissection. The sigmoid flexure was found wrapped in omentum and adherent to the anterior abdominal wall and also to the left side of the uterus where the left tube had been removed. The left ovary was present and cystic. There was some evidence of infection around the old ligatures. The omentum

where it surrounded the sigmoid flexure was freed, the kink straightened and the cystic left ovary removed. The right tube and ovary were present. The sigmoid loop was placed in the pelvis over the raw surfaces and the wound closed without drainage. Exploration of the abdomen was otherwise negative.

FURTHER DISCUSSION

I may say that this chart begins a month after operation. For about a week previously there was a temperature up to 100° or 101°. At first we took this temperature seriously, although there was no elevation in pulse to correspond. Then very late in the day we got suspicious and watched her. You can see that when she was watched her temperature dropped sharply from 104° to normal, and when she was not watched it went up to 103.5°. So that temperature was malingering. The way she did it we believed was by holding the thermometer close to a steam radiator near her bed. The curious thing was that she did not overdo it.

After this trick with the temperature was discovered her distention gradually improved, her general condition improved, and she was sent out from the hospital "improved" on May 6.

In this case it is very hard indeed to separate the physical from the psychical. I feel sure that there is a very strong psychical element which contributed to her symptoms which simulated obstruction. I am not entirely sure that all were due to that, but I am sure that was a very great factor.

This all goes back to the first appendectomy. If that could have been avoided presumably this whole sequence of events could have been avoided. I am very much afraid, though, that with her temperament even if she had not been operated on for appendicitis in this hospital she would have been somewhere else, and then the whole train of symptoms would have been started.

LATER NOTE

A newspaper report dated May 13, a week after her discharge, states that on May 12 she had an emergency operation, presumably for acute obstruction, done at a hospital she had not visited before. She entered complaining of great pain. On the same day warrants were issued in court charging her with larceny from two shopkeepers. She was found to have been on parole from a reformatory since the previous November. In June, a year and eight months before her second admission to the Massachusetts General Hospital, she was arrested after fleeing a dozen shopkeepers.

FURTHER DISCUSSION

I do not know the pathology found at that time. She may well have had a gangrenous loop of the intestine.

I consider that the psychical basis for this case was that she found an operation a refuge from troublesome conditions, and therefore rather welcomed it. I am still puzzled as to how much of her symptoms were due to the mind and how much to the body. But this represents the type of case in which it is dangerous to do any operative procedure.

DIAGNOSIS

Intermittent intestinal obstruction.
Psychoneurosis.

HOSPITALIZATION CONFERENCE IN PARIS

A PRELIMINARY conference of representatives of twenty-nine countries was recently held in Paris to provide for an international hospital congress and exhibit. The conference was inspired by the American Hospital Association which includes in its membership many New England hospitals. Boston ranks fourth in the United States in individual memberships and fifth in institutional memberships in the Association.

Dr. J. C. Doane of Philadelphia and Dr. E. H. L. Corwin of New York are acting as representatives of the Association at Paris.

That the problems of hospitalization are international and that the activities of the hospitals should be directed to a program that would lead to the betterment of mankind are the beliefs that account for the origin of the movement. It is expected that great coördination and goodwill among the nations will result from these conferences.

THE NEW STATE HOSPITAL FOR MENTAL DISEASES

PREPARATIONS are under way for the early construction of the new Metropolitan State Hospital which will be located on land in Waltham, Belmont and Lexington. About three hundred and thirty acres are included in the site.

The plans include the erection of fifty buildings which will house two thousand patients and five hundred employees.

The cost will approximate five million dollars when the plan will have been completed. An appropriation of one and one half millions of dollars has already been voted by the legislature.

The administration building will be of brick, three stories in height, covering forty by one hundred feet of ground space. Cottages will be provided for the medical staff and a home for nurses and one for attendants.

Final completion of the plans will depend on the needs of accommodations for patients.

THE BOSTON Medical and Surgical Journal

Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

For three years JOHN W. BARTOL, M.D.
FREDERICK T. LORD, M.D.
CHANNING PROTHINGHAM, M.D.
For two years HOMER GAGE, M.D., Chairman
EDWARD C. STREETER, M.D.
EDWARD W. TAYLOR, M.D.
For one year WILLIAM H. ROBBY, JR., M.D.
ROGER I. LEE, M.D.
ROBERT B. OSGOOD, M.D.

EDITORIAL STAFF

DAVID L. EDGALL, M.D.
REID HUNT, M.D.
FRANCIS W. PEARSON, M.D.*
JOHN P. SUTHERLAND, M.D.
GEORGE R. MINOT, M.D.
FRANK H. LAHEY, M.D.
STEPHEN RUSHMORE, M.D.
HANS ZINSSER, M.D.
BENJAMIN WHITE, PH.D.
HENRY R. VIETS, M.D.
ROBERT N. NYE, M.D.
SHIELDS WARREN, M.D.

*Deceased.

WALTER P. BOWERS, M.D., Managing Editor

ASSOCIATE EDITORS

GEORGE G. SMITH, M.D.
WILLIAM B. BEEBE, M.D.
JOSEPH GARLAND, M.D.

SUBSCRIPTION TERMS: \$6.00 per year in advance, postage paid for the United States, \$7.50 per year for all foreign countries belonging to the Postal Union.

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 126 Massachusetts Ave.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

CHILD HEALTH ACTIVITIES IN REVIEW

So recent and so enthusiastic has been the development of our modern child health activities that we are liable to think of them as an inspiration that has been accorded the present generation only, automatically throwing into the category of mediaevalism all the activities of the Black Ages preceding the twentieth century. True it is that practical efforts towards the betterment of child health have been shockingly recent innovations, but the fault has been with a hardened and careless world rather than through any failure to appreciate the problems by those who had made careful study of them.

The earlier efforts in child health work were made the subject of an address before the American Child Health Association in May by Dr. Philip Van Inger (*Am. J. Dis. Child.*, 34:95, July 1927) and his historical data should be of considerable interest. The beginnings of child health work took place in Europe, and in 1817 a short book was published by John Bunnell Davis, M.D., under the title "A Cursory Inquiry into Some of the Principal Causes of Mortality Among Children, etc., etc." In this with many of our modern activities are urged: The prevention of malnutrition and diseases; popular

education of parents; teaching of health habits; social service; mental hygiene; posture; the proper school day; convalescent homes; home economies; subsidies for nursing mothers, and elimination of patent medicines.

Later came interest in education and with it the question of child labor, Massachusetts, in 1826, passing the first legislation regulating it. By this law no child under fifteen years of age should be employed in any manufacturing establishment unless he had attended some public or private school for at least three months the preceding year. In 1842 a law restricted the hours of labor for children under twelve to ten hours a day, and since 1904, when the National Child Labor Committee was formed, the battle has been unrelenting.

Seemingly unrelated to child welfare was the establishment in 1866 of the Society for the Prevention of Cruelty to Animals, but when it was discovered that a cruelly abused adopted child had no recourse except to this society, and that under the ruling that the child was an animal, the Society for the Prevention of Cruelty to Children was founded in 1875.

In 1899 the first Children's Court was established by Illinois; in 1874 the New York City Board of Health issued a leaflet on infant care; in 1879 the state legislature of New York required the city to appropriate \$10,000 to pay a corps of physicians to visit sick infants in the tenements; in 1907 there were still only 143 milk stations in twenty cities, and only 54 of these were open the year around; twenty years ago there were 900 public health nurses; today there are 11,500. In 1908 the pediatric department of the New York Out-Door Medical Clinic undertook prenatal supervision and instruction of all women applying to the obstetric department for care. New York established the first division of child hygiene in 1908; today every state in the Union except Vermont has such a division or its equivalent. In 1927 the National Treasury is providing \$1,141,000 for child health activities; twenty years ago it spent nothing. Medical inspection in the schools began in 1892 with the appointment by New York of one medical officer; in 1894 Boston provided fifty, and the following year Chicago appointed nine.

THE DISCOURAGING CANCER DEATH RATE

DR. FREDERICK L. HOFFMAN has stated in his survey of the cancer situation that "the cancer record for 1926 is a dismal indictment of the failure of modern efforts to check the ravages of this dreadful affliction."

This statement is based on a statistical study of the mortality records of one hundred and nineteen American cities. While Dr. Hoffman is recognized as an expert statistician, it is fair

to hope that the picture is not so appalling as the figures seem to imply, for it is probably true that the cancer propaganda has led to more careful study of sick people with better diagnostic returns and it may be that cities show a disproportionate increase because the cancer patients are sent or gravitate to the cities, to some extent at least.

Surgeons are regularly reporting more and more cured cases of cancer and every community can furnish evidence of the beneficial results following surgical interventions. Even if the average longevity of the race has increased to the extent that a very much larger proportion of the people reach the cancer age, we may still hope that more general appreciation of the possibility of cancer in obscure cases may lead to a larger number of cures.

Although Dr. Hoffman says that "the vast amount of laboratory research on the one hand and of cancer propaganda on the other seem to have had no measurable effect on the cancer death rate" and that "the enormous sums of money which have been expended on cancer research seem to have yielded thus far not a fragment of evidence of real value toward the control and cure of the disease" it may be that the statistical evidence is to some extent unbalanced. It is probably true that until within recent years many people died of unsuspected cancer.

Even if Dr. Hoffman's gloomy statements are true, about thirty per cent. of all cancers are curable in the early stages and the statistics will eventually reflect the advantages of early recognition and appropriate surgery.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

NEWELL, FRANKLIN S., B.A., M.D. Harvard Medical School 1896, F. A. C. S., Professor of Clinical Obstetrics at Harvard Medical School, Obstetrician at Massachusetts General Hospital, Visiting Obstetrician at Boston Lying-in Hospital. His subject is: "Treatment of Cardiac Complications of Pregnancy and Labor." Page 757. Address: 443 Beacon St., Boston.

PETERSON, REUBEN, A.B., M.D. Harvard Medical School 1889, F. A. C. S., Professor of Obstetrics and Gynecology at University of Michigan. His subject is: "A Review of 2000 Patients Recently Registered in the Gynecologic Clinic of the University of Michigan Hospital with Special Reference to Abnormal Bleeding." Page 764. Address: University of Michigan Hospital, Ann Arbor, Mich.

KELLOGG, FOSTER S., A.B., M.D. Harvard Medical School 1910, Instructor in Obstetrics at

Harvard Medical School. His subject is: "Report of the Committee of the Obstetrical Section of the Massachusetts Medical Society Appointed for the Study of Recurrent Toxemia." Page 771. Address: 19 Bay State Rd., Boston.

MEAKER, SAMUEL R., A.B., M.D. Harvard Medical School 1915, M. R. C. S., Associate Professor of Gynecology at Boston University School of Medicine. His subject is: "Modern Methods in the Investigation and Treatment of Sterility." Page 773. Address: 475 Commonwealth Ave., Boston.

MATAS, RUDOLPH, LL.D., M.D., F. A. C. S. (See page 750, issue of Oct. 27, for further information.) His address, "The Surgeon; His Science and His Art," is continued on Page 778. Address, 2255 St. Charles Ave., New Orleans, La.

YOUNG, CHARLES H., M.D. Tufts College Medical School 1905, Superintendent of the Maine General Hospital. His subject is: "Painting by the Use of the Spraying Unit." Page 782. Address: 22 Arsenal St., Portland, Maine.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

A REVIEW OF THE LAST ANNUAL REPORT OF THE VITAL STATISTICS OF MASSACHUSETTS

MR. EDGAR A. BOWERS, Massachusetts State Registrar of Vital Statistics, has given in his last report an excellent and concise document, which, if read carefully, will furnish physicians much that is helpful. Mortality statistics whether public or private are not lively reading, yet all medical men should keep and study them. Surgeons and internists alike should also study mortality statistics in order to measure the success or failure of medical endeavor.

The report, therefore, is of especial interest to the obstetrician and to the general man who practices obstetrics. Under the heading of deaths in the puerperal state, we find that there were 501 deaths in Massachusetts in 1926, and the same number were reported in 1925. In 1926, 150 women died of Puerperal Septicemia. These deaths were distributed fairly evenly through the months of the year, although March usually has the highest mortality in Puerperal Septicemia and on the other hand, August, September and October, especially October, have the least number of deaths. February also claims more than her share. Whether or no climatic conditions have any influence on death in the puer-

peral state cannot be scientifically determined, but it is a well known fact that the death rate from puerperal causes in countries that have a salubrious climate like New Zealand and some of the cities of the Pacific Coast is comparatively low; while there seems to be a constant high rate in New England and other northern countries during the winter months. In Massachusetts, the highest mortality rates are reached generally in February and March and are lowest in September and October. There may be other explanations of this condition, but the comparison of figures leads one to conclude that pregnancy is more dangerous in the winter months and early spring than in the early autumn.

Locality does not seem to exert any particular influence in the death rate from puerperal causes, but the study of statistics from the various cities and towns is interesting. Under the heading Puerperal Septicemia, Boston reports 41 deaths, Worcester 20, Springfield 8, Cambridge 6, Lowell 1, Fall River 4, Lawrence 6 and New Bedford 4. The existence of many hospitals in Boston which care for obstetric cases and the tendency of sending complicated and septic cases to the hospitals for treatment by private physicians would sufficiently explain the large number of deaths from Puerperal Septicemia credited to Boston. Incidentally it might be well to note that unofficial figures show that all deaths in the puerperal state reported from Boston for July 1927 occurred in hospitals and none are reported as from private physicians. Unofficial figures also show that the same state of affairs existed in Boston in March, 1927, where the number of deaths were twelve and none were reported as from private physicians.

Worcester is another city which draws from great outlying districts and has many hospitals which care for the pregnant woman.

Birth rate would naturally have some influence upon these statistics, as for example Brookline, which has the lowest birth rate in Massachusetts; namely, 4.9, reported no deaths in the puerperal state in 1926 and 1925. Brookline also is in proximity to many large hospitals, while Newburyport, which occupies a somewhat isolated spot and had the highest birth rate in Massachusetts in 1926; namely 27.6, reported no deaths from Puerperal Septicemia and only three from all puerperal affections. These figures, it is true, do not give us much scientific knowledge, but it would seem that some influence rather than mere chance exists.

The death rate from Puerperal Albuminuria and Convulsions shows a steady decline since 1920 when 147 deaths were reported to 96, which were reported in 1926. This steady reduction is no doubt due to the recent agitation within the profession for better prenatal care and the growing tendency of women to place themselves under medical care early in pregnancy.

Puerperal hemorrhage claimed 59 deaths; Caesarean section uncomplicated caused 30 deaths; Ectopic Gestation claimed 14.

In Massachusetts in 1926, there were 83,502 live births. Of this number 378 died of injuries received at birth, while premature birth and injury at birth claimed 1878 lives.

The birth rate in Massachusetts has been falling since 1857 when the rate was 30.2. In 1926, the birth rate was 19.8 per one thousand population. The City of Cambridge has the highest birth rate; namely, 24.0, of any place in the Commonwealth over 100,000 population.

In the number of live births, Boston heads the list with 18,731; Worcester next with 4,312; Springfield third with 3,298 and Fall River 3,050.

The report is not bulky in form. It is a model of conciseness, while its comprehensiveness ought to satisfy the most critical. We think that such an important document ought to occupy a place in every practicing physician's library.

MISCELLANY

DR. SOPER REPORTS PROGRESS IN DEALING WITH CANCER TO VERMONT MEDICAL SOCIETY

A DISTINCTLY hopeful note on the subject of the prevention and cure of cancer characterized the address of Dr. George A. Soper, managing director of the American Society for the Control of Cancer, delivered before the Vermont Medical Society, October 13, 1927.

Dr. Soper said that there are two recognized methods of combating the disease, the discovery of new facts and the better coordination and dissemination of facts already in existence; and while he had nothing in the least sensational to report as to new discoveries, he pointed out that there has been an encouragingly appreciable advance along the second line of attack.

People who have cancer, or think they have it, are today not nearly so secretive about it as they were. Many sufferers once seemed to feel that there was something personally blameworthy in their affliction, but that unfortunate notion is giving way, Dr. Soper said, thanks to the educational campaign in which physicians, health boards and the public press are cooperating.

Other points about cancer of which the public is gaining a helpful knowledge are that it is not contagious, that it is not hereditary in the ordinary sense of that word, and that it should not be considered merely a private matter between a patient and his personal physician but a disease which calls for all the special skill and equipment of a good general hospital.

Clinics for the diagnosis and treatment of cancer were being established in general hospitals in many parts of the country with good

results. New York was the first State to establish an institution especially to fight cancer, and New York City was the first American city to open a municipal cancer institute.—*N. Y. Times*.

MASSACHUSETTS GENERAL HOSPITAL

THE Massachusetts General Hospital on October 17 quietly observed, as in years past, the anniversary of the first public demonstration of ether. The usual clinics were held in the morning, followed by the Alumni luncheon, but a departure was made in the afternoon exercises in that no speaker was presented and no formal meeting took place. Instead the newly completed connecting building between the Out Patient Department and the Eye and Ear Infirmary, affording better and more closely allied dispensary facilities to both institutions, was thrown open to inspection.

Many of the clinics occupying the new building had prepared demonstrations for the benefit of the visitors, and during and following the inspection tea was served on the second floor. In the evening the Massachusetts General Hospital House Officers Alumni Association held its annual dinner at the Harvard Club.

PHYSICIANS' ART EXHIBIT

THE BOSTON MEDICAL LIBRARY, 8 THE FENWAY,
BOSTON

THE Committee in charge wish to request that all those physicians who intend to contribute works of their own to this exhibition—which is to be held at the Boston Medical Library for the two weeks beginning Wednesday, November 30th—will kindly notify the Committee as soon as possible, specifying the number of articles and giving a brief description of them, and send the objects themselves, insured and carriage prepaid, to the Boston Medical Library at some time during the week beginning November 20th and ending November 26th.

It is desirable that the pictures intended for exhibition be framed, if possible, before being sent to the Library.

A small fee will be charged each exhibitor to help defray the expenses of the exhibition.

THE SUSPENSION OF THE REGISTRATION OF ANDREAS F. CHRISTIAN

THIS Dr. Christian is not a graduate in medicine and has been under suspicion for many years as an irregular practitioner. He was registered before the State required graduation

from a medical school as a prerequisite to admission to the examination conducted by the Board. Complaints have been submitted to the Board of Registration in Medicine at various times alleging unethical conduct by this man.

He has maintained showy rooms with various forms of electrical apparatus.

A large picture of Oliver Wendell Holmes was hung in his waiting room.

Certain recent complaints led the Board to call Dr. Christian before it and it was found that his charges in treating a patient and his assurances of benefits were not in accordance with reputable practice.

The Board found that he had prescribed more alcohol for patients in a given time than is used in some of the largest hospitals in Boston.

The evidence submitted led the Board to suspend the registration of Andreas F. Christian from October 27, 1927, until further action by the Board because of gross misconduct in the practice of his profession and violation of the laws relating to the use of alcoholic liquors in the practice of medicine.

A WARNING

DR. A. S. APELIAN has informed the JOURNAL that he has had an unpleasant experience in an investment in the stock of the Wrigley Pharmaceutical Company. This Company was reported to be the manufacturer of a tooth paste but probably has no connection with another Wrigley prominently before the public. We wrote to the Wrigley mentioned by Dr. Apelian asking for an explanation but no answer has been received.

Dr. Apelian is willing to have his unfortunate experience made public as a warning to others.

THE AMERICAN RED CROSS ROLL CALL

THE Roll Call this year, to enroll members for 1928, will be held as usual from Armistice Day to Thanksgiving, November 11 to 24.

The American Red Cross, with a membership of more than three millions and an additional Junior membership of six millions, has become the recognized agency of the American people for extending service to humanity. Its work is supported through the membership dues secured once a year during the Roll Call.

RECENT DEATH

DUGGAN—DR. JOHN JOSEPH DUGGAN, a practitioner of Milford for forty years, died at the Massachusetts General Hospital, Boston, following an operation, October 25, 1927, aged 66. He was a graduate of Bellevue Hospital Medical College in 1886. A native of Millbury, he is survived by his widow and four sons.

CORRESPONDENCE

AN APPEAL FOR CO-OPERATION

October 27, 1927.

Dear Editor:

I think the physicians of Boston and vicinity will be interested in the committee which was authorized by the Suffolk District Medical Society last night to cooperate with the Chronic Survey, under the auspices of the Boston Council of Social Agencies, which is now in progress. The names of the committee are as follows:

Dr. Elliott P. Joslin, chairman; Dr. Frederic J. Cotton, Dr. Hilbert Day, Dr. Felix McGirr, Dr. Shields Warren, Dr. Robert Osgood, Dr. William H. Robey, Dr. Edward W. Taylor.

It would be a help to the investigation if doctors knowing of homes, boarding homes with nursing care, nursing homes or unincorporated hospitals where such patients can be accommodated, would send the addresses of such as soon as possible to Miss Amy Hamburger, 46 Cornhill, Boston. Miss Hamburger is in charge of the survey, which is being made under the general supervision of Dr. Haven Emerson of New York.

Sincerely yours,
ELLIOTT P. JOSLIN.

AN UNOFFICIAL SOLICITOR OF SUBSCRIPTIONS

October 27, 1927.

Editor, *Boston Medical and Surgical Journal*:

I am writing you regarding a man who is getting money from the doctors in New England.

He generally uses the name of O'Toole in soliciting doctors for subscriptions to A. M. A. journals and he solicits their next year renewals. He asks a doctor to make his check payable to Professor F. W. Rogers of Tufts University. He is registered at a hotel as Rogers and gets the checks cashed there.

To my knowledge he has worked New Haven, Worcester, Providence and Quincy, where he was six or seven weeks ago.

If you publish this information it may be the means of catching him or he may be around Boston now.

Any further information desired may be obtained from the A. M. A.

Yours very truly,

W. H. HESSENFLOW.

NEWS ITEMS

CHANGES IN FACULTY APPOINTMENTS AT BOSTON UNIVERSITY SCHOOL OF MEDICINE, SEPTEMBER 29, 1927—

(1) FACULTY PROMOTIONS

ASSOCIATE PROFESSOR

Joseph E. Sternberg, M.D., 520 Commonwealth Avenue, Associate Professor of Clinical Ophthalmology.

ASSISTANT PROFESSORS

Henry M. Emmons, M.D., 320 Commonwealth Avenue, Assistant Professor of Clinical Ophthalmology.
Samuel W. Ellsworth, M.D., 82 East Concord Street, Assistant Professor of Radiology.

Mary A. Leavitt, M.D., 524 Beacon Street, Assistant Professor of Anaesthesia.

Burnham S. Walker, Ph.D., 80 East Concord Street, Assistant Professor of Chemistry.

INSTRUCTORS

Harold Diehl, M.D., 475 Commonwealth Avenue, Instructor in Gynaecology.

John J. Elliott, M.D., 4041 Washington Street, Roslindale, Instructor in Obstetrics.

Julius Gottlieb, M.D., Lewiston, Me., Instructor in Pathology.

Louis G. Howard, M.D., 636 Beacon Street, Instructor in Orthopedics and Fracture Surgery.

Rudolph Jacoby, M.D., 270 Commonwealth Avenue, Instructor in Dermatology and Syphilology.

James C. Janney, M.D., 252 Marlborough Street, Instructor in Obstetrics and Gynecology.

Earle Prior, M.D., 640 Main Street, Malden, Instructor in Pediatrics.

Warren S. Shields, M.D., 535 Beacon Street, Instructor in Obstetrics.

Maurice Silverstein, M.D., 12 Mascoma Street, Roxbury, Instructor in Pediatrics.

J. J. Skirball, M.D., 353 Commonwealth Avenue, Instructor in Ophthalmology.

Dwight O'Hara, M.D., 751 Main Street, Waltham, Instructor in Clinical Medicine.

(2) NEW APPOINTMENTS

INSTRUCTORS

Elizabeth W. East, A.M., 87 Robinwood Avenue, Jamaica Plain, Instructor in Histology and Embryology.

Eveline B. Lyle, M.D., 14 Marion Street, Brookline, Instructor in Clinical Obstetrics.

Emma A. Posey, M.D., 11 Gaylord Street, Dorchester, Instructor in Clinical Urology.

ASSISTANTS

Joseph H. Burnett, M.D., 520 Commonwealth Avenue, Assistant in Surgery.

Edward Harding, M.D., 355 Marlborough Street, Assistant in Surgery.

A. E. Hiebert, M.D., 36 Hull Street, Assistant in Medicine.

Anna H. Kandib, M.D., 46 King Street, Dorchester, Assistant in Pediatrics.

Moses J. Stone, M.D., 636 Beacon Street, Assistant in Medicine.

C. Sumner Webber, M.D., 94 Washington Street, Weymouth, Assistant in Pediatrics.

DR. C. A. PORTER RESIGNS—Following the stated meetings of the corporation and board of overseers at Harvard, announcement is made of the resignation of Dr. Charles Allen Porter as John Homans Professor of Surgery at the Harvard Medical School.

Dr. Porter was graduated from Harvard in 1888, and received both his A.M. and M.D. degrees in 1892. He began his practice in Boston in the same year, and in 1897 he joined the staff of the Harvard Medical School as an instructor in surgery. In 1909 he was made an assistant professor; in 1913, an associate professor; from 1916 to 1922 he served as a full professor; and in 1922 he was named to fill the John Homans Professorship of Surgery.

Dr. Porter has served as surgeon-in-chief of the Massachusetts General Hospital; is a Fellow of the American Surgical Association and a member of the Massachusetts Medical Society and the Society of Clinical Surgery.

Dr. Porter's successor in the John Homans Chair will be Dr. Edward Peirson Richardson, Harvard '02, who was graduated from the Medical School in 1906, and who was named assistant professor of surgery in 1922.—*Boston Evening Transcript*.

DR. L. W. DEAN BECOMES EDITOR OF ANNALS OF OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY

—Dr. L. W. Dean, Iowa City, Iowa, until recently Dean of the School of Medicine of the University of Iowa, Past President of the American Laryngological Society and of the American Laryngological, Rhinological and Otolological Society, has accepted the post of Editor-in-Chief of the *Annals of Otolaryngology and Laryngology*.

Dr. Arthur W. Proetz, Assistant Professor of Clinical Otolaryngology, Washington University, St. Louis, is Associate Editor.

DISEASE INCIDENCE IN CONNECTICUT
WEEK ENDING OCTOBER 8

	1927				1926		
	Week ending Sept. 24	Week ending Oct. 1	Week ending Oct. 8	Average cases reported for week corresponding to October 8, for past seven years.	Week ending Sept. 25	Week ending Oct. 2	Week ending Oct. 9
Actinomycosis	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-
Cerebrospinal Men.	2	3	2	1	2	2	1
Chickenpox	2	2	61	9	6	10	9
Conjunctivitis, infec.	-	1	-	-	-	-	1
Diphtheria	17	19	36	50	10	14	17
Dysentery, Amoebic	-	-	-	-	-	-	-
Dysentery, Bacillary	-	1	-	-	-	-	-
Encephalitis, Epid.	-	-	-	-	-	1	-
Favus	-	-	-	-	-	-	-
German Measles	1	-	1	-	1	1	1
Hookworm infection	-	-	-	-	-	-	-
Influenza	1	1	2	3	-	2	5
Leprosy	-	-	-	-	-	-	-
Malaria	-	1	-	3	2	-	1
Measles	3	9	14	22	4	7	20
Mumps	-	11	13	7	3	3	1
Paratyphoid Fever	-	-	-	-	-	3	-
Pneumonia (Broncho)	9	12	14	9*	9	13	7
Pneumonia (Lobar)	14	13	23	10	11	23	12
Poliomyelitis	12	13	13	3	2	4	1
Scarlet Fever	18	22	21	35	20	30	28
Septic Sore Throat	1	-	2	-	1	1	-
Smallpox	-	-	-	-	-	-	-
Tetanus	-	-	-	-	-	-	1
Trachoma	-	-	-	-	-	-	-
Trichinosis	-	-	-	-	-	-	-
Tuberculosis (Pul.)	13	33	21	27	39	39	22
Tuberculosis (o.f.)	1	3	2	2	1	1	2
Typhoid Fever	9	5	3	13	10	3	4
Typhus Fever	-	-	-	-	-	-	-
Whooping Cough	38	22	25	38	25	23	22
Gonorrhoea	26	20	134	23	12	29	51
Syphilis	28	32	79	30	9	16	20

*Average for two years. Made reportable January 1, 1925. Remarks: No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

CONNECTICUT MORTALITY
STATISTICS: 1926

THE Department of Commerce announces that the 1926 death rate for Connecticut was 1,141 per 100,000 population as compared with 1,125

in 1925. This increase in 1926 is accounted for by increases in the death rate from measles (from 3 to 13 per 100,000 population), influenza (from 21 to 30), diseases of the heart (from 210 to 219), and pneumonia, all forms (from 96 to 101).

Decreases in 1926 were in death rates from diphtheria (from 8 in 1925 to 5 per 100,000 population), diarrhea and enteritis, under 2 years (from 20 to 17), and automobile accidents (from 22 to 19).

COMMUNICABLE DISEASES IN 1926 AND 1927

A COMPARISON of the prevalence of communicable diseases in the United States for the weeks ending September 11, 1926 and September 10, 1927, has just been made by the Public Health Service.

The full text of the statement follows:

The 94 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,110,000. The estimated population of the 89 cities reporting deaths is more than 29,470,000. Weeks ended September 10, 1927, and September 11, 1926:

Cases reported:	1927	1926
Diphtheria:		
42 States	1,306	965
94 cities	531	428
Measles:		
41 States	613	754
94 cities	112	155
Poliomyelitis:		
42 States	504	137
Scarlet Fever:		
42 States	1,131	963
94 cities	304	325
Smallpox:		
42 States	133	155
94 cities	20	7
Typhoid Fever:		
42 States	1,138	1,488
94 cities	172	259
Deaths reported:		
Influenza and Pneumonia:		
89 cities	378	304
Smallpox:		
89 cities		

—U. S. Daily.

REPORTS AND NOTICES OF MEETINGS

IMPORTANT MEETING—NOVEMBER EIGHTH

ADVANCE notice has just been received to the effect that on November 8 in New Haven there is to be held a *joint meeting of the Connecticut Public Health Association and the Connecticut Valley Branch of the Society of American Bacteriologists*. The meeting will be called to order by the presidents of the two organizations at 3 P. M., at Sterling Hall of Medicine, 333 Cedar Street, New Haven.

The afternoon program will be given over to a symposium on the *control of tuberculosis* from four angles.

"A Community Organization Program," by

W. B. Soper, M.D., Medical Director, William Wirt Winchester Hospital, New Haven.

"Clinical Studies of Tuberculosis in Children," by Ethel Dunham, M.D., Yale, Department of Pediatrics.

"A Nursing Program," by Mrs. Violet Hodgson, R.N., New Haven V. N. A.

"Eradication of Bovine Tuberculosis," by Millard Knowlton, M.D., State Department of Health.

After a dinner at 6:30 at the Betsy Ross Tea House the evening session will be held at the auditorium at 7:45 with the following subjects under discussion:

"Bacteriological Studies in Tuberculosis Control, with Case Reports," by Morris Goldstein, M.D., Yale, Department of Pediatrics.

"Report on Clinical Cases of Malta Fever," by George Blumer, M.D., New Haven.

"Bact. abortus Infection in Man and Its Relation to Milk Consumption," by J. G. McAlpine, Ph.D. and C. A. Slanetz, Ph.D., Storrs Agricultural College, Conn.

A public health nursing exhibit will be installed in Room 102, Sterling Hall of Medicine. Public health workers should save this date.

BOSTON MEDICAL HISTORY CLUB

THE first meeting of the year will be held at the Boston Medical Library, Friday, November 18th, at 8:15 P. M.

OLIVER WENDELL HOLMES MEETING

PROGRAM

"Selections from the Medical Writings and Sayings of Dr. Oliver Wendell Holmes."

Dr. George H. Monks

Exhibition of *Holmesiana*, Mr. James Ballard

HENRY R. VIETS, M. D.,

Secretary.

MASSACHUSETTS GENERAL HOSPITAL

STAFF MEETING, Moseley Memorial Building, Thursday, Nov. 10, 1927, at 8:15 P. M.

(1) Demonstration of Cases.

(2) The Poliomyelitis Problem.

Dr. W. L. Aycock, Member Harvard Infantile Paralysis Commission.

(3) The Diagnosis and Treatment of Poliomyelitis, Dr. E. H. Luther.

Physicians, students and nurses are cordially invited to attend.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

SEMI-ANNUAL MEETING

THE Middlesex South District Medical Society held its Semi-Annual Meeting at the Wayside Inn, Sudbury, Mass., October 11.

The Semi-Annual paper was read by Dr. A.

W. Rowe of Boston. The subject: "A Diagnostic Study of Certain Endocrine Dysfunctions."

The privileges of the Weston Golf Club were available for the members who wished to play golf. The meeting was attended by 151 members.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY—At the semi-annual meeting of the Middlesex South District Medical Society held on October 11, 1927, at the Wayside Inn, Sudbury, Mass., the following resolution was unanimously passed:

Resolved, That the Middlesex South District Medical Society in meeting assembled October 11, 1927, most respectfully urge upon the trustees of the various hospitals in the Middlesex South District that they classify as private patients all patients protected by insurance against injury and sickness.

CENSORS' MEETING

The Censors of the Middlesex South District Medical Society will meet for the examination of candidates at the Colonial Club, 20 Quincy St., Cambridge, on Thursday, November 10, at 4 P. M.

Candidates should make personal application to the Secretary and present their medical diplomas at least one week before the examination.

STEPHEN M. BIDDLE, M.D., *Secretary*.

NORFOLK SOUTH DISTRICT MEDICAL SOCIETY

A MEETING for medical improvement was held on Thursday, October 6, 1927, at 12 noon, at the Norfolk County Hospital, South Braintree.

Speaker: Dr. Karl M. Bowman, Chief Medical Officer of the Boston Psychopathic Hospital. Subject: The Early Diagnosis and Treatment of Mental Disorders.

A STATED Meeting of the Norfolk South District Medical Society will be held on Thursday, November 3, 1927, at 12 noon, at the Norfolk County Hospital, South Braintree.

Speaker: Dr. Arthur H. Crosbie. Subject: "Some of the Common Problems of Urology."

N. R. PILLSBURY, M.D., *Secretary*.

S. Braintree, Mass.

D. A. BRUCE, M.D., *President*.

Atlantic, Mass.

BRISTOL SOUTH DISTRICT MEDICAL SOCIETY

THE semi-annual meeting will be held in the New Bedford Public Library on Thursday, November third, 1927, at 5 P. M.

A moving picture entitled "How Biological Products Are Made" will be shown, and a competent representative will be present to answer questions.

A speaker is expected to be present from Boston to tell us what is being done by the Parent Society.

The Censors will meet these applicants for

membership at 3:45 P. M.: J. Fine, A. J. Sullivan, W. Rosen, A. M. Castro, O. T. Charron, W. F. Gove, W. E. Lanjevin, G. G. Parlow and H. Lubinsky.

GEORGE E. BORDEN, *Secretary*,
132 Franklin Street, Fall River, Mass.

HARVARD MEDICAL SOCIETY

THE next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, Tuesday evening, November 8, 1927, at 8:15 P. M. The program follows:

1. Presentation of cases.
2. The Cancer Problem. Dr. William E. Gye, Pathologist of the Medical Research Council in London.

PERCIVAL BAILEY, *Secretary*.

THE TWENTY-FIFTH ANNIVERSARY MEETING OF THE CAMBRIDGE ANTI-TUBERCULOSIS ASSOCIATION

THIS meeting will be held in the Parish House, First Church (Congregational) Garden Street, Cambridge, at four o'clock on Monday, November 7.

PROGRAM, DR. HILBERT F. DAY, PRESIDING

Address of Welcome, Rev. Raymond Calkins, D.D.

Twenty-five Years Ago, Dr. Edward O. Otis. Reminiscences, illustrated, Dr. Eugene A. Darling (President for twenty-five years).

The Day's Work, Mrs. Mabel Greeley Smith. Address: "Essentials for Future Progress Against Tuberculosis," Dr. Haven Emerson.

The public is invited.

GREATER BOSTON MEDICAL SOCIETY

A REGULAR meeting of the Society will be held on Tuesday, November 8, 1927, at 8:15 p. m. at the Boston Medical Library.

PROGRAM

1. "Endocrine Dystrophies of Childhood," Fritz B. Talbot, M.D.

2. "Endocrine Dysfunctions of the Adult," Joseph C. Aub, M.D.

Discussion.

All those who are interested are cordially invited.

Refreshments.

ROBERT SLATER, M.D., *Secretary*.

68 Bay State Road, Boston, Mass.

THE EDWARD K. DUNHAM LECTURES AT THE HARVARD MEDICAL SCHOOL

THE Edward K. Dunham Lectures for the year 1927 were given by Sir Charles Scott

Sherrington, O.M., Professor of Physiology at Oxford University, England. The series of three lectures was given in Amphitheatre C of the Harvard Medical School, Oct. 10, 13, 17. The titles of the lectures were "Observations on Stretch Reflexes," "Modes of Interaction between Reflexes," and "Some Factors of Coördination in Muscular Acts."

Professor Sherrington pointed out that the stretch reflexes, the impulses for which began at the periphery of the body and by higher and higher arcs up the spinal cord to the motor cortex gave responses, which were produced by, and acted on, the muscles. When we study these spinal reflexes in segmental portions of the body such as in a vertebrate animal we find a strange monotony of result. A pain stimulus on the bottom of the foot or most any place on the body produces a flexion response, one of defense or escape, which is a protective measure.

Upon further experimentation we find several exceptions to this rule. The well-known knee-jerk is purely an extension reflex and even causes a relaxation of the flexor group. Another exception is that called the "extensor thrust." Not only will one leg extend fully in a vertebrate animal upon touching the bottom of the foot, but all four will extend.

Both of these flexion and extension responses are known as stretch reflexes. It was found that these reflexes led to increased heart rate, greater flow of blood and an increase in the adrenalin content of the blood.

In measuring these reflexes the amount of contraction of each individual fiber could be obtained according to the all-or-none law. And while the motor units may vary somewhat, the number of fibers in commission at any one time can be calculated from the tension. Thus, it is possible to find out which muscle is acting by the amount of contraction obtained. In stimulating the nerves to muscles the amount of reaction obtained differs, but the kind never varies, that is, one nerve always gives a flexion response and does not shift to an extensor response.

In speaking of the crossed extension reflex, Professor Sherrington showed that it was a summation of fiber reaction carried through a spinal relay with no interpolated nerve. This reaction is also found in the flexor muscles as in the flexor digitorum profundus muscle. Affecting this reflex is a cortico-after-discharge. This after-discharge varies between the flexors and extensors. In the case of the former there is a quick small drop and a gradual sloping while in the latter case there is a plateau of after-discharge. One must differentiate between the plateau of stimulus and the plateau of after-discharge. Usually they are the same in amount. The phenomenon of after-discharge is universal in reflexes, being due partly to the action of the cord and partly to the reverberation of the muscle.

Inhibitory stimuli may change the picture of the plateau. The ratio of fall of the plateau is usually a direct one to the amount of inhibitory stimulus, providing the driving stimulus is not too strong. In inhibition those neurons whose after-discharge will be the shortest are taken out of commission first.

Professor Sherrington concluded his lectures by stating that with the work that Harvard has done in this line of research, the world looks to her for future advancement.

The lectures were well attended and apparently went further to foster the spirit of friendship between foreign investigators and those of this country.

MEETING OF THE FRANKLIN DISTRICT MEDICAL SOCIETY

THE Franklin District Medical Society held its regular bimonthly meeting at the Weldon Hotel, Greenfield, Mass., on Tuesday September 27, the president, Arthur H. Ellis, in the chair.

Dr. Moline of Sunderland, the Secretary, read the minutes of the July meeting which included a detailed report of the talk on modern methods and results in radiography by Dr. Van Allen of Springfield. After finishing the usual routine business, Dr. Ellis introduced Dr. George H. Bigelow, State Commissioner of Public Health, who talked informally but most interestingly on The Cancer Program of Massachusetts.

The Commissioner touched briefly the early efforts to find out the causation of Cancer and how professional and interested layman groups have tried to offer resistance to its spread. He then described the efforts of the Mass. Legislature which finally culminated last year in the appropriation of money and the passage of related legislation which made it mandatory for the State Commissioner of Public Health to establish a hospital for the reception, care and study of this disease.

A site in Norfolk was selected and the institution is known as Pondville Hospital. It has a capacity of 90 patients, its consultation staff was picked from Harvard, Tufts and Boston University colleges, and its visiting, resident and nursing staff, together with its special equipment of radium, x-ray and operating facilities permit it to offer to those suspected or actual sufferers whatever human aid is possible.

But the setting up of the Pondville Hospital is only a part of the work which the Commissioner and his staff are obliged to carry out, for a systematic effort is being made to district the state and to establish in every centre with local hospital facilities a so-called Cancer Clinic. These are brought about by appointment of a committee from the County Medical Societies who in turn select a group of physi-

cians to take charge of the clinics, the state department of public health supplying competent and skilled diagnosticians to cooperate with the local examining staff.

The very important educational work which the Department is carrying on was outlined. By the aid of the press and other literature, the work of social health agencies, district nursing associations and the personal efforts of those citizens who are sensitive to their civic obligations,—a few of which can be found in every community,—the message of cancer detection and prevention is being spread throughout the state.

The speaker enumerated many of the statistics which have so far been accumulated, emphasizing particularly the high death rate in Massachusetts and the relatively large number of new cases which appear annually, even with the present limited facilities for diagnosis, and he predicted a probable substantial increase when the district clinics provide easier access for consultation.

In conclusion Dr. Bigelow stressed the point that the people of the state through its legislators have taken an unusually forward step in providing money and the resources of the state board of health by which an active campaign could be carried on, but he made it clear that the medical profession, particularly the units comprising the county medical societies, were the vital links in the chain of endeavor. He enlarged upon the magnitude of the undertaking and the corresponding opportunity for service which it offered and he was optimistic regarding the future if the profession would give his department their whole hearted cooperation.

At the conclusion of Dr. Bigelow's talk the question of accepting the program as outlined was discussed as well as the wisdom and desirability of seeking the establishment of a branch clinic for Franklin County.

On motion it was unanimously voted to endorse the program and instructed the President to appoint a committee to take the initial steps to put the plan in operation.

The meeting then adjourned with most of those present remaining for dinner when more personal contact with Dr. Bigelow was obtained.

B. P. CROFT, *Reporter*.

PLYMOUTH DISTRICT MEDICAL SOCIETY

On Thursday, October 20, the Plymouth District Medical Society, held its October meeting at the Moore Hospital in Brockton. In addition to the members of the Society, several other physicians outside of the Plymouth District were present.

Before the principal paper of the meeting the following matters were arranged: 1. That the

Secretary should report to the BOSTON MEDICAL AND SURGICAL JOURNAL, the happenings at the regular meetings of the Society. 2. A committee of three was appointed to draw up resolution in the matter of the death of the late Dr. A. Elliott Paine, who had been a practitioner in this community for over sixty years. 3. Certain changes in the by-laws to conform to the by-laws of the parent society. 4. Taking action upon the vote of the Councillors to appoint a member of the committee on Clinics and Health Associations, the Society voted to have the chair appoint the delegate from this district. He appointed Dr. J. F. Callahan, who has been recently the chairman of a similar local committee.

The paper of the meeting then followed and was given by Dr. Ernest Daland of the Massachusetts General Hospital. His subject was cancer of the breast. He covered this subject in a very thorough fashion. He discussed the differentiation between cancer and other nodules in the breast; the likelihood of metastases of the axilla and supraclavicular glands according to location; the spreading of cancer through the lymphatics; symptoms in more or less all directions, according to theory (and apparently proof) of Handley; types of incision; the extent of the operation necessary; the use of radium and X-ray both before or after operation; the various types of malignancy as shown by such microscopic feature as (a) the differentiation of the tissue; (b) increasing lack of differentiation; (c) irregularity in the size of cancer cells; (d) the presence or absence of many mitotic figures; and also the great necessity of the presence of a trained pathologist where there was some doubt as to whether the entire breast should be removed or not;—this, of course, in cases where the diagnosis was seriously in doubt. Numerous charts illustrating various features of these conditions were thrown upon a screen to illustrate visibly the findings as collected from a large number of cases in numerous hospitals. His address took rather more than an hour and was very full and complete.

The paper was discussed briefly by Doctors G. A. Buckley and P. H. Leavitt. Considerable discussion followed and one rather serious problem was presented for solution, namely, what should a physician advise a young woman of thirty-five, who had had one breast removed because of a supposed cancer (which on microscopic examination proved to be benign), and who has now a similar tumor in the other breast; the malignant or benignancy of which cannot be proven within reasonable limits by any of the customary clinical signs. Dr. Daland answered that his opinion was that this breast should be removed also; or at least a definite investigation made with a pathologist present, upon whose decision would depend the complete or partial removal of the breast.

After the discussion the meeting adjourned and the members went to the home of Dr. Moore, near by, where luncheon was served by Dr. and Mrs. Moore to all their guests.

LORING B. PACKARD, M.D., *Secretary.*

BOSTON ORTHOPEDIC CLUB

THERE will be a meeting of the Boston Orthopedic Club in Sprague Hall of the Boston Medical Library on Monday evening, November 14th, at 8:15 P. M.

PROGRAM

Listerism Properly and Improperly Applied in the Treatment of Infections of Bones and Joints, by Dr. H. Winnett Orr, Lincoln, Neb. (Lantern Slides.)

R. K. GHORMLEY, *Secretary.*

ANNUAL MEETING OF THE FOUR WESTERN DISTRICTS

A MEETING of considerable interest was held at Hotel Northampton in Northampton, Mass. on Oct. 11, at 4 P. M. The occasion was the annual meeting of the four western District Societies of the Massachusetts Medical Society, about 65 Fellows being present.

The only matter of business was the choosing of officers for the next year. By unanimous vote Dr. Fred B. Sweet of Springfield was made President and Dr. Charles Moline, of Sunderland, *Secretary.*

Two addresses were made. The first was by Dr. John M. Birnie of Springfield, President of the State Society, who outlined several problems confronting that organization. Among these were broadening the field of the JOURNAL so that it may become the official organ of several other states; plans for the next annual meeting of the parent society; matters relating to insurance against malpractice suits; and certain legislative prospects. The question of a paid assistant to the President was also discussed.

The scientific address of the day was made by Dr. Daniel F. Jones of Boston, whose subject was "Pancreatitis, Diagnosis and Treatment." This paper was unusually well received and called forth much favorable comment both for its subject matter and its interesting presentation.

At six o'clock the Fellows adjourned for dinner.

FRANK H. SMITH.

HAMPDEN DISTRICT MEDICAL SOCIETY

THE regular Fall Meeting of the Society was held in the rooms of the Springfield Academy of Medicine, 20 Maple St., Springfield, on Tuesday, November 1, 1927, at 4:15 P. M.

PROGRAM

"The Thymus in Infancy" W. B. Adams
"The General Methods of diagnosis of Endocrine Disorders," Allan W. Rowe, Ph.D.,
Evans Memorial, Boston

Discussion by Fellows.

HERVEY L. SMITH, *Secretary.*

MEETING OF THE WACHUSETT MEDICAL IMPROVEMENT SOCIETY

THE Society invited the Worcester District Medical Society to meet at the Hotel Bancroft, Worcester, on the evening of November 2 to hear a paper by Dr. Charles L. Scudder on "Diseases of the Stomach."

HARVARD MEDICAL SCHOOL NEWS

THE American Society of Tropical Medicine, organized in 1903, held its twenty-third annual meeting at the Harvard Medical School, Amphitheatre E, on Friday and Saturday, Oct. 21 and 22, 1927. An address by Dr. George C. Shattuck, President of the Society, marked the opening of the meetings. He reviewed the history of the society and welcomed the new members and visitors.

The papers, the titles of which appeared in a previous issue of the BOSTON MEDICAL AND SURGICAL JOURNAL, were very interesting and well presented. Dr. Solomon in his paper on the "Clinical Aspects of Sodoku" showed that the lesions due to the *Spirochaeta morsus muris* are very similar to that of syphilis and respond readily to the treatment with arsphenamine. Dr. Strong gave a brief resume of the Harvard Expedition to Africa. The most prevalent diseases in Africa, according to Dr. Strong, are malaria, sleeping sickness, elephantiasis, trypanosomiasis, and several parasitic infections. All the animals that were killed were afflicted with parasites. A peculiar fact was that the hyena was the most free from them.

Many of the papers were illustrated by lantern slides and by specimens under the microscope. Some papers will be printed in the official journal of the Society, *The American Journal of Tropical Medicine.*

Before and after the meetings the laboratories of the Departments of Tropical Medicine, Pathology, Bacteriology, Hygiene, and of Comparative Pathology were open to the visiting members for inspection.

The officers elected on Friday, Oct. 21st, 1927 were:

President, Dr. Charles S. Butler, U. S. Navy;
First Vice-President, Dr. W. E. Deeks, New York City; Second Vice-President, Dr. Kenneth M. Lynch, Columbia, S. C.; Secretary-Treasurer, Dr. Benjamin Schwartz, Washington, D. C.; Asst. Secretary, Dr. Damaro de Revas, Philadelphia, Pa.; Editor, Dr. Charles F. Craig, U. S. Army.

Two new members of the council were also elected: Dr. Damaro de Rivas, Philadelphia, Pa.; Dr. E. L. Walker, San Francisco, California.

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE MEDICAL ASSOCIATIONS. 1927

PROGRAM

FRIDAY, NOVEMBER 18—10 A. M.

Address. Jabez N. Jackson, President, American Medical Association.

The Basic Science Law. W. C. Woodward, Executive Secretary, Bureau of Legal Medicine and Legislation, American Medical Association, Chicago.

Periodic Conferences Between Officers of Associations of Adjoining States. J. B. Morrison, Secretary, Medical Society of New Jersey, Newark.

12:30 P. M. Recess.
12:45 P. M. Luncheon.

FRIDAY, NOVEMBER 18—2 P. M.

Address. W. S. Thayer, President-Elect, American Medical Association.

The Annual Meeting.

1. The Program. Holman Taylor, Secretary, State Medical Association of Texas, Fort Worth.
2. Exhibits. F. B. Stephenson, Secretary, Colorado State Medical Society, Denver.
3. Observations in Several States. Morris Fishbein, Editor, *The Journal of the American Medical Association*, Chicago.

SATURDAY, NOVEMBER 19—9 A. M.

Address. Edward B. Heckel, Chairman, Board of Trustees of the American Medical Association.

The Free Clinic. Henry O. Reik, Editor, *Journal of the Medical Society of New Jersey*, Atlantic City.

TOPICS SUGGESTED FOR GENERAL DISCUSSION

1. The Full Time Secretary.
2. The Constitution and By-Laws.

SOCIETY MEETINGS

November 3—New York Academy of Medicine. Fifth Avenue and 103rd Street. Stated meeting. Section meetings, November 1 to 11.

November 4-17—The twenty-first annual meeting of the Southern Medical Association will be held in Memphis, Tenn. Detailed notice, page 372, issue of September 1.

November 7—The twenty-fifth anniversary of the Cambridge Anti-Tuberculosis Association. See page 812 of this issue for complete notice.

November 8—Harvard Medical Society. For detailed notice see page 812, this issue.

November 8—Joint meeting of the Connecticut Public Health Association and Connecticut Valley Branch of the Association of American Bacteriologists. Detailed notice appears page 811, this issue.

November 9—Greater Boston Medical Society. See page 812 of this issue for detailed notice.

November 10—Massachusetts General Hospital, staff meeting. Detailed notice appears on page 811 of this issue.

November 14—Boston Orthopedic Club. See page 815 of this issue for complete notice.

November 18 and 19—Annual Conference of Secretaries of Constituent State Medical Associations, Chicago. Detailed notice page 816 of this issue.

November 18—Boston Medical History Club. See detailed notice on page 811 of this issue.

DISTRICT MEDICAL SOCIETIES

Bristol South District Medical Society

November 3—Semi-annual meeting at New Bedford Public Library. Complete notice page 812, this issue.

Essex South District Medical Society

November 3 (Thursday)—Censors meet for examination of candidates at Salem Hospital at 3:30 P. M. Candidates

should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

November 9 (Wednesday)—Symposium on Infantile Paralysis at Salem Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Lloyd E. Aycock, "Polio-myelitis, the Laboratory Point of View, and the Recent Epidemic."

Dr. Arthur Legg, "The Harvard Commission and Orthopedic Point of View," with lantern slides.

Dr. Philip Sylvester, "The Point of View of the Pediatrician, with Special Reference to Rest, Lumbar Puncture, and Serum."

Discussion by Drs. A. N. Sargent and H. C. Bean of Salem, 10 minutes each, and from the floor.

December 7 (Wednesday)—Beverly Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. P. E. Truesdale, Fall River, "Modern Trends of Medical Practice."

Discussion by Drs. P. P. Johnson and C. H. Phillips of Beverly, 10 minutes each, and from the floor.

January 4, 1928 (Wednesday)—Deer Cove Inn, Swampscott. Dinner at 7 P. M.

Dr. Frank Lahey, "Differential Points of Importance to the General Practitioner in Surgical Diagnosis." Discussion by Drs. Walter Phippen of Salem and N. P. Breed of Lynn, 10 minutes each, and from the floor.

February 1 (Wednesday)—Council meeting, Boston.

February 8 (Wednesday)—Danvers State Hospital. Clinic at 4 P. M. Buffet supper at 6 P. M., followed by

Dr. Abraham Myerson, "Some Aspects of Mental Hygiene."

Discussion by Drs. W. F. Wood of Hathorne and G. M. Kline of Beverly, 10 minutes each, and from the floor.

March 7 (Wednesday)—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Henry R. Viets, "The Acute Infections of the Nervous System," with lantern slides and moving pictures.

Discussion by Drs. W. V. McDermott of Salem and J. W. Trask of Lynn, 10 minutes each, and from the floor.

April 11 (Wednesday)—Essex Sanatorium, Middleton. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Raymond S. Titus, "Obstetrical Emergencies."

Discussion by Drs. J. J. Egan of Gloucester and A. T. Hawes of Lynn, 10 minutes each, and from the floor.

May 3 (Thursday)—Censors meet at Salem Hospital for the examination of candidates at 3:30 P. M. Candidates should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

May 8 (Tuesday)—Annual meeting. Place and speaker to be announced.

Middlesex South District Medical Society

November 8—Censors' meeting for the examination of candidates at the Colonial Club, 20 Quincy Street, Cambridge, at 4 P. M.

Norfolk South District Medical Society

November 3—District Society meeting.

Suffolk District Medical Society

November 3—Censors' meeting. For full details see page 766, issue of October 27.

Combined meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, at 8:15 P. M., as follows:

November 16—Surgical Section. "Stomach Surgery." Dr. Donald C. Balfour, Mayo Clinic.

December 28—Medical Section. "Functions and Organization of the Boston City Hospital."

January 25, 1928—General meeting in association with the Boston Medical Library.

Dr. George W. Crile, Lakeside Clinic, Cleveland, Ohio. Title to be announced later.

February 29—Surgical Section. Subject to be announced later.

March 28—Medical Section. "The Use and Misuse of Vaccines." Dr. Hans Zinsser, Dr. Francis M. Rackemann, Dr. Charles H. Lawrence.

April 25—Annual meeting. Election of officers. Paper of the evening to be announced later.

The medical profession is cordially invited to attend these meetings.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they appear.